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Original Articles.

ASEPTIC MINOR GYNECOLOGY.

WITH DEMONSTRATIONS.*

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NEW YORK CITY.

It is my purpose to submit to my colleagues, both in gynecological and general practice, some of the fruits of my observations and to suggest some improvements in technique, the outcome of personal experience, which will, I hope, prove useful. Progressive men are ever ready to improve their methods, hence suggestions are always acceptable. We may all learn something from each other; some detail that one may lose sight of may be suggested by another's methods. The general practitioner often does excellent work in our line, and we may gain some points from him. I shall hope, therefore, to have a full discussion of the subject from that side of the house also.

It is easy enough to be clean in every-day gynecological work. It is either a matter of taste or habit. Yet, you know very well, cleanliness is one of those good habits for which some never acquire a taste. One who is clean as a matter of taste is more to be trusted than one who is obliged to acquire it as a habit. Like all good habits, it is hard to acquire, and is then seldom proficient. To be strictly surgically clean, one must be naturally so inclined. An acquired habit is not often unfailing unless, perhaps, it is a bad habit.

Would you permit a man with habitually dirty finger-nails, or who is careless about his linen, to examine a member of your own family? I should not, if he was the most distinguished gynecologist in the land. If it was unavoidable, I should want him to wear rubber gloves, though he washed his hands, and I should want to furnish the gloves, fearing, if he used his own, he would bring them wrapped in his handkerchief.

Nowhere is cleanliness more important than in every-day gynecological work, both for the protection of the patient and the physician himself. Patients have been infected not infrequently by a failure of proper aseptic precaution, as we all know. Physicians themselves have been infected while examining patients, when they have not taken proper precautions. The genito-urinary specialist runs less risk than the gynecologist, because the necessity for precaution is constantly before him to suggest it. Let not the physician think he will offend his patient by methods to attain asepsis in simple gynecological examinations. On the contrary, it pleases her to see that she is taking no risk of contamination because the physician is taking none himself.

As evidence of the imperfect attempt at asepsis in some instances, I will cite one or two incidents. I have seen men prepare for abdominal operations, and after scrubbing and disinfecting their hands, run their hand down in their pocket, pull out a pen-knife and clean the finger-nails, then put on a sterile gown and proceed to operate. With these men cleanliness is not a matter of taste. An attempt has been made to acquire it. I know men who make a great fuss about asepsis and in their preparation for an operation they remind you very much of a slow horse that is making a great effort to get over the ground, and the casual observer would think he was making good time, but really he is slow, very slow. Such men are dirty, really very dirty. I have often overheard nurses criticise their methods because they could see that with all their fussing they failed in asepsis.

The importance of cleanliness in every-day gynecological work can not be over-estimated. It always reverts to the benefit of the physician, as well as to the patient, and inspires confidence. If the patient sees that her attendant is particular for himself as well as for her, she may feel safe. Those who are themselves clean and particular will certainly be favorably impressed, and those who are not may profit by it as a suggestion. It is just as easy to be clean in routine office-work, and it requires no more energy than to be unclean. Everything should be done in an orderly and methodical manner and everything about should bear the mark of precision. Careless, slipshod and untidy methods actually consume more time, because details are not carried out in their proper order; many require repetition, and one may interfere with the other.

Arrangement of the Examining Table.—The examining table should be arranged ready for use, with a fresh, clean, white cover, and pillow with clean case. A fresh, clean napkin should be spread over the pillow for every patient. This should be removed and replaced by a fresh one in her presence after she leaves the table. A clean sheet, neatly folded, should be in readiness to cover the patient. At the foot of the table there should be placed a clinical air-cushion, which I show you. It has the following advantages. It is only twelve inches deep, which permits it to be used on the table for office examination, when the patient's clothing is not loosened about the waist, since the cross-bar of the air-cushion is below the waist line, when it is adjusted in proper position. The downward curve of the cross-bar is useful for the same reason. It is only fifteen inches across the widest part, so that the buttocks rest on, instead of between, the arms of the cushion. The stiffening between the lower ends of the lateral arms of the cushion prevent it and the flap from becoming wrinkled up. The strap is to fasten it in position on the table so that it will not slip around, or it may be utilized for strapping the cushion to the patient for operative work.

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This pad is used to protect the table and the clothing of the patient from getting wet. Over this may be spread for each patient a fresh square of white rubber sheeting. After being used, these squares are washed and sterilized.

Arrangement of Instruments required on Side-Table, with Absorbent Cotton, Gauze, Tampons, etc.—The instruments needed should be selected from their cases, where they are kept when not in use, and placed in a flat pan and covered with some antiseptic solution that will not injure or tarnish them. This should be done beforehand and the dish covered with a clean towel to conceal them from view, since some nervous patients have a dread of instruments. All instruments should be kept brightly polished and should be replated when they begin to show wear. This can now be done at so little cost that no one need neglect this little item. The aphorism that a workman is known by his tools is quite true, and should be borne in mind. The tray or dish containing the instruments should be placed on a low table conveniently to the right of the physician as he faces the foot of the table. All things likely to be needed for the examination, as sterile absorbent cotton wads for sponging, gauze and cotton prepared for tampons with strings attached, or prepared wool for same, are placed in separate glass jars with covers, on a lower shelf on the same table holding the instruments. On the same shelf should be placed such remedies as may be needed, such as glycerin, iodin, and a solution of iodin in glycerin, 1 part to 32, which is to be preferred to other mixtures with glycerin, as boroglycerin or ichthyol and glycerin. This should be placed conveniently at hand before beginning the examination or treatment of the patient.

Under this table should be placed a deep receptacle—a deep cuspidor, for instance—for depositing waste cotton wads after they have been used. This receptacle should be deep and have a rather contracted mouth or neck, so as to conceal from view what is thrown into it.

Reservoir and Irrigating Apparatus.—A reservoir containing an antiseptic solution for irrigation should be placed conveniently upon a door-frame or window-frame, and should be arranged on a slide, with pulley for raising and lowering for convenience in refilling and to get the required elevation. This reservoir, for office work, where it can be permanent, is constructed preferably of a large glass percolator, of two-quart capacity, with rubber tubing, eight or nine feet long, attached. This tubing should have a large caliber, so as to convey a stream of considerable volume. The necessity for a wide-mouth reservoir, such as a percolator, is that it may be more readily washed inside.

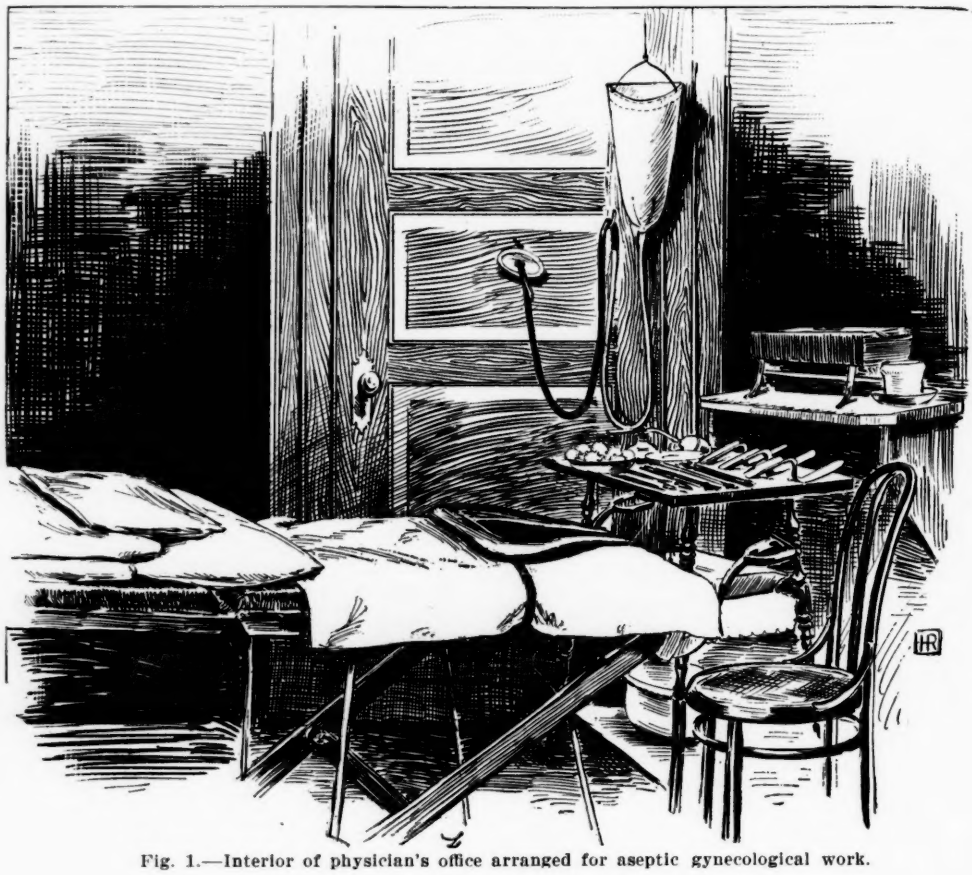


Fig. 1.—Interior of physician's office arranged for aseptic gynecological work.

Necessity for Washing and Sterilizing the Hands.—While the patient is being placed on the table by the nurse the physician washes his hands, for no examination should be made with unclean hands. If he is not so fortunate as to have a nurse to assist him, he places the patient in position on the table first and washes his hands afterward. This is essential, as the hands will become soiled in handling the clothing or shoes, which he may be obliged to touch in getting the feet into right position.

The necessity for sterilizing the hands before making a vaginal examination can be appreciated if the fact is recalled that infecting germs exist on the hands of every individual under ordinary conditions and even after ordinary washing. The staphylococcus is always present, as shown by actual bacteriological tests, and

very often the streptococcus also. A suggestion as to the method of washing the hands may, therefore, not be amiss. It is well known that ordinary soap does not clean the hands, nor does ordinary washing. Scrubbing with a stiff brush and a reliable antiseptic liquid soap is essential. I have employed for this purpose, with much satisfaction, a liquid soap—synol. It does not roughen or injure the hands, but, on the contrary, makes them soft. This soap should be kept in a receptacle over the basin, preferably of glass, with a contrivance that will permit the necessary amount to escape into the hands by pressing a button attached to a lever. Thus, there is no chance of contamination of the whole when a small quantity is needed. The soap should be well rubbed into the hands and around the fingers and nails, by rubbing them together, then it is washed off by a stream of warm water from the faucet, then with more soap and a nail-brush, the hands, fingers and nails are scrubbed thoroughly. Before the scrubbing is finished the nails should be cleaned, preferably with a flat, dull-pointed stick. Then they are again scrubbed, and finally the soap is rinsed off under a stream of warm water. The stream is preferably regulated by foot pressure which controls both the hot and cold water, so as to avoid touching the handles of the faucet in turning it on. I have found, by actual bacteriological tests, that this will positively destroy both the streptococcus and staphylococcus on the hands with five minutes' scrubbing.

Method of Placing the Patient on the Table.—The manner of placing the patient on the table is important. She should be directed to place her back to the foot of the table, and while the nurse or physician stands in front of her holding the sheet spread out between them, so as to conceal her movements perfectly, she is directed to pull up her skirts well behind and sit back on the edge of the table with the skirts free above it. Then she lies back on the table, the sheet is thrown over her, covering her completely, and the feet are lifted into position upon the steps, which should project beyond the foot of the table some seven or eight inches, so that the buttocks may come to the edge of the table. The rubber cushion being in position on the table, the buttocks are now resting on this. Either she or the nurse now draws aside the drawers, which are usually split up the back, thus getting them out of the way, outside of the inflated rim of the air-cushion on each side. The bare buttocks are therefore resting on the cushion, and there is no risk of wetting the clothing.

Antiseptic Irrigation of the Vagina.—Unless inspection of the vagina is necessary, before making a digital examination, or unless it is necessary to take specimens of vaginal secretions for microscopic examination, the nurse should now proceed to irrigate the vagina and vulva with an antiseptic solution. If there is no nurse present, this, though very embarrassing to both, must be done by the physician. I wish to say a word as to the method of irrigating the vagina to secure cleanliness. The usual method is most ineffectual. To do it perfectly it is necessary to distend the vagina and its folds and to permit the solution to escape with a gush. In order to accomplish this readily I have had made a vaginal irrigator with shield. It consists of a hard rubber or glass nozzle, with slits in the end instead of holes, so as to permit the solution to escape more rapidly. This vaginal nozzle is inserted through the opening in the shield, to the back of which is attached the tubing from the reservoir. This shield has a concave surface three inches wide by five inches long, which fits the vulva. It is covered with soft rubber with a raised rim around the circumference. The vaginal nozzle is inserted and the shield pressed up against the vulva snugly. The water from the reservoir is permitted to flow into the vagina until it becomes distended, then the shield is withdrawn a short distance and the water is permitted to escape with a rush. This maneuver is to be repeated until the reservoir is exhausted. The shield serves the double purpose of compressing the vulva and preventing the escape of the solution so as to distend the vagina, and at the same time protects the hand holding it from contact with the escaping solution. This is the only absolutely reliable method of cleansing the vagina. Each shield is furnished with two of the soft-rubber covers,

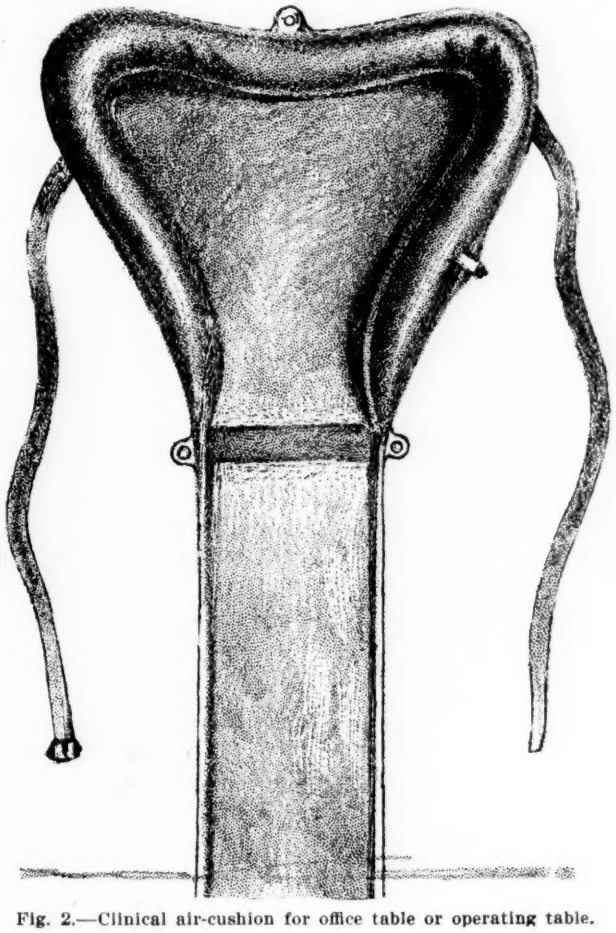


Fig. 2.—Clinical air-cushion for office table or operating table.

so that one may be in use while the other is being sterilized.

The antiseptic employed for this irrigation should be one that is effective without being irritating. I prefer a 1 per cent. solution of the antiseptic soap which I employ for washing the hands, and have found it most satisfactory, on account of its soapy character, in removing the secretion that sometimes adheres quite tenaciously to the vaginal walls and its folds.

Lubricant for Finger and Speculum.—The lubricant employed for the examining finger and instruments is most important, both from the standpoint of cleanliness and comfort of the patient, as well as for the physician. I have abandoned all forms of grease, because they adhere to the parts and are not easily removed, and because they can not be removed from the hand without hard washing and scrubbing. The soap used for washing the hands I have found most convenient and agreeable. It is easily removed from the hand by sim-

ply placing it under a stream of water. It is removed from the vulva by wiping with a damp cloth or absorbent cotton. The same lubricant is used for the speculum. Besides being convenient, it possesses the additional advantage of being antiseptic.

Method of Making Digital Examination of the Vagina.—If a suspicious vaginal discharge is encountered, however, it is wiser to employ rubber gloves or rubber finger cots, when a digital examination of such cases is required. A digital examination should be made with one finger, since just as much can be felt by employing one properly, and it will reach just as far, if the knuckles are not doubled up. The outside fingers should be straightened out and made to slip between the folds of the buttocks. In this manner the reach of the index finger is much increased. The insertion of two fingers into the vagina, besides being unnecessary, is most unpleasant, and even disagreeable, to the patient. Both hands should be used alternately for palpating the appendages, since the palmar face of the finger-end is more acutely sensitive and the touch is more reliable when the finger and hand are straight, than when bent over awkwardly to palpate the opposite appendage. Therefore the index finger of each hand should be educated, and a physician should be able to palpate equally well with either.

Method of taking Specimens of Secretion for Microscopical Examination.—When it becomes necessary to take specimens of vaginal secretion for microscopical examination, which is most important, since we should know the character and significance of every discharge that is encountered in this line of work, though it is often neglected, a sterile speculum is inserted into the vagina, preferably a simple perineal retractor. This is lubricated on the outer side and inserted deeply into the vagina, the end of the beak passing into the cul-de-sac behind the cervix. A loop of platinum wire fastened in a glass handle is sterilized by passing it slowly several times through the flame of an alcohol lamp or Bunsen burner. With this a specimen is taken from the urethra by inserting it within the meatus and turning it around or gently pressing it against the sides. Another similar sterile platinum loop is selected and another specimen taken from the vaginal wall or side of the cervix at the cervico-vaginal fold. Still another is inserted well into the cervix after the visible secretion at the external os has been wiped away with a pledget of sterile absorbent cotton in the grasp of a dressing forceps. As each specimen is taken, it is deposited on a clean cover-glass and teased out into a thin film with the platinum loop. Then it is placed under a bell glass to dry. When dry it is fixed on the cover-glass by passing the reverse side quickly through an alcohol flame or Bunsen burner twice. I will not go into the details of staining and mounting these specimens, as it is understood by most of you, and those not familiar with it can readily find it described elsewhere.

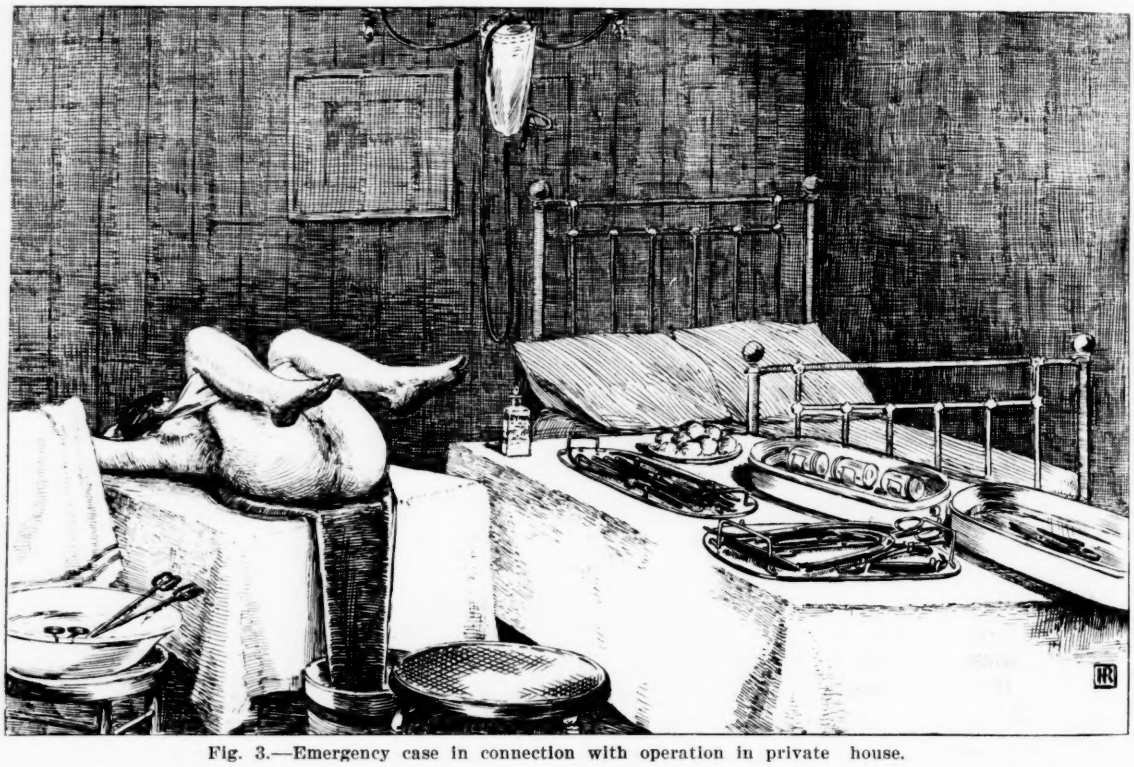


Fig. 3.—Emergency case in connection with operation in private house.

Uterine Irrigation.—Besides irrigation of the vagina, which is done solely for the purpose of securing cleanliness, and seldom by the physician as a therapeutic measure, irrigation of the uterine cavity is frequently necessary, both for the purpose of securing cleanliness and drainage of the cavity, and also for therapeutic purposes. For this purpose I employ a clinical double-current irrigator. It is small enough to be inserted through the cervical canal in most instances where irrigation is required. In conditions requiring irrigation, the canal is usually larger than normal, though it is not invariably so. Where it does not enter readily, a piece of rubber tubing may be slipped over the outside, insulating it to within two and a half to three inches of the end, and converting it into an electrode temporarily, there being an attachment at the outer extremity for connection with the cord from the battery. By using this connected with the negative pole of the galvanic battery for a few moments with a moderate strength of current (10 M.), it will slip by the constriction. Where there is much constriction in the

canal, it is best to continue the current during the entire irrigation, which will facilitate subsequent drainage by relaxing the canal.

There is considerable advantage in having the outer tube or canula as long as it is in this instrument, because it conducts the outflow outside of the vulvar orifice, where it may be emptied into a basin held under it. The outer tube broadens from a point two and a half inches from the point to the exit, which obviates blocking of its caliber. The inner tube, which conducts the in-flow, terminates at the point of the instrument, and the opening is a lateral split similar to a gas-tip. This is for the purpose of projecting the liquid from the point of the irrigator tube, and the split is to permit it to escape laterally if the end impinges against the fundus.

I have found that irrigation of the uterus is the most satisfactory method of treatment for endometritis, both where curettage is necessary and when it is not. After curettage it is particularly useful to remove debris, clots and secretion, which will collect in the cavity and prove a source of irritation if not removed. When medication of the surface is necessary, it is certainly the most satisfactory and least objectionable method of making an application, since an application thus made is most thorough to the whole surface and none of the solution is left behind in the cavity to provoke irritation.

Cleansing of Instruments.—After instruments have been used, either for operative work or for simple examination of the female genitalia, they should be thoroughly cleansed and sterilized before being used again. They should be placed immediately in a 2 per cent. solution of the antiseptic soap, where they are allowed to remain for five minutes. They are taken out of the solution and scrubbed with a stiff brush if they have come in contact with blood or pus, particularly the parts where there are serrations and about the locks. Double-bladed instruments, such as forceps, dilators and scissors, should be taken apart and all parts thoroughly washed. Scissors blades and scalpels are dipped into the soap full strength and wiped off thoroughly with a bit of gauze. When instruments are tarnished, they should be scrubbed with the finest grade of sapolio on a bit of gauze. When this does not brighten the surface or remove roughness, they should be repolished or replated. After the instruments have been carefully washed in this manner, they are placed in a sterilizer partially filled with a 1 per cent. solution of the synol soap and are boiled for three minutes. They are then laid away in a case on glass shelves. Cutting instruments, scissors and knives are not boiled with the other instruments, but are immersed in a boiling solution of the soap separately for two minutes.

In office work, a sterilizer may be kept boiling in a convenient place and the instruments may be placed in it each time after they have been used, but they should be first washed.

When instruments are required for immediate use and time can not be spared for sterilization by boiling, they may be quickly sterilized by placing them in a pan and pouring over them a small quantity of alcohol, which is then ignited. After the alcohol has been permitted to burn for half a minute, if there is too much alcohol to burn out in that time, water is poured over them from a pitcher and the flame is extinguished. Burning alcohol is a very hot flame, and the temper of instruments would be destroyed if submitted to it for too long a time, hence it is not well to let it burn for more than half a minute.

When not in use, instruments should be kept in a closed case, free from dust, on glass shelves. They should be cleansed and sterilized before they are put away as described above, and if one should be taken out and handled it should be sterilized before it is put back into its place; thus instruments are kept always ready for use. It is wiser, however, to boil them for two minutes again immediately before they are used, because dust may settle upon them from the opening of the doors of the case containing them.

Asepsis in Examination at the Patient's Home.—Asepsis is quite as important when patients are examined or treated at their homes. If the physician will go prepared for it, it is as readily attained here as elsewhere. Everything that may be needed to secure perfect asepsis should be taken with him in his bag, including antiseptic liquid soap, sterile absorbent cotton, gauze, sterile nail brush, etc.

The average practitioner does not, perhaps, possess the necessary gynecological instruments that may be needed in cases which he may be compelled to treat, and, as a rule, his outfit is exceedingly meager. If he knew just what he would want, he would, undoubtedly, possess himself of them. Recognizing this, I have suggested to Messrs. Knauth Bros. to make up this aseptic gynecological emergency case with instruments. I have endeavored to select those instruments most essential and to omit those that are superfluous in order to economize space and weight.

Aseptic Gynecological Emergency Case with Instruments.—The case consists of two aseptic white enameled oblong or square basins which fit together, forming a bottom and top, and the instruments are compactly arranged on three metal trays, which may be lifted out without touching the instruments. These basins are to be used as aseptic trays to hold instruments during an operation or examination. Being already clean, it is only necessary to take from the trays such instruments as will be required and place them in one of the basins and cover them with an antiseptic solution. Then proceed with the work in hand.

GYNECOLOGICAL EMERGENCY CASE.

First or upper tray contains: 5 curettes, one sharp and four dull, of different sizes; 2 uterine irrigators, one, the larger, for use in operations, and one smaller clinical irrigator for use in office.

Second or middle tray contains: 1 uterine dilator, 1 needle forceps, 1 angular tenaculum forceps, 1 combined uterus dressing forceps and placental forceps, 1 uterine packing forceps.

Third or bottom tray contains: 1 long-handled, sharp-pointed, curved scissors, 2 broad-ligament clamps, 1 vaginal speculum, 1 scalpel, 1 tenaculum, 1 shaving knife, 1 metal case of one dozen assorted needles, 1 metal box for dusting powder, 1 glass receptacle for liquid antiseptic soap, 1 glass receptacle for absorbent cotton, 1 glass receptacle for absorbent gauze, 1 sealed tube of assorted ligatures containing chromic and plain catgut and silk.

The outer leather case holds, besides the instrument case, a clinical air-cushion, a portable rubber reservoir with tubing (9 feet) and with vaginal irrigating nozzle and vulva shield, and a simple leg-holder strap.

On the first tray there are two double-current irrigators; one, the larger, for use during operation after the cervical canal has been dilated; the smaller, for clinical work without previous dilatation of the canal.

This case is placed, for convenience of transportation, in a leather outside case with handle, in which there has

been space allowed for packing away a three-quart rubber reservoir with pulley attached and tubing, vulva shield and vaginal nozzle and also a clinical air-cushion and leg-holder.

This irrigating apparatus can be placed high against the door-frame or window-frame, as a hook with screw accompanies it. There is also attached a pulley for raising and lowering it for convenience in filling and to obtain readily the required height for the work in hand. The rubber reservoir is made with wide mouth to permit the inside to be washed out. It can be rolled up with shield and tubing complete so as to occupy a very small space. The rubber air-cushion can also be rolled up in a small package, small enough even to be carried in the pocket.

With a case of this kind complete, the practitioner who is compelled frequently to ride long distances in the

Fig. 4.—Aseptic rubber cover for sponge or laminaria tent.

Fig. 5.—Aseptic tent cover, showing tent inserted with gauze around it ready for insertion into the canal of the cervix.

Fig. 6.—Showing aseptic tent cover with expanded tent within after it has been removed from the cervix.

country will be able to cope with any ordinary gynecological case that he may unexpectedly encounter.

The price of the case complete is so reasonable that it is certainly within the reach of every practitioner.

In making examinations or doing minor operations at private houses, the bed or couch should never be used. A kitchen table is easily obtainable in every house, and this can be readily converted into an examining table. This should be placed conveniently near a window and covered first, either with a blanket folded several times or a thick quilt. Over this is placed a fresh, clean sheet, which is folded over at the corners and pinned down with safety pins. The rubber air-cushion is placed in position at the foot of the table and everything is ready for work. On a smaller table or chair placed to the right of the physician, as he faces the foot of the table, are placed the trays containing the instruments to be used. Then the irrigating reservoir is filled and the hook screwed into the window-facing, preferably to his left. Before beginning there should be placed in readiness an extra pitcher of the solution for refilling the reservoir when it is exhausted, so there may be the least possible delay during the procedure.

Where slow, gradual dilatation of the cervix by sponge or laminaria tents is required, I have succeeded in accomplishing it in a perfectly aseptic manner by employing the sponge-tent cover made of rubber. These have been made for me by the Miller Rubber Mfg. Co., of pure gum, very thin, and they stretch easily. Hence, they offer the least possible resistance to the expansion of the tent. The method of using them is as follows, viz., a narrow strip of sterile absorbent gauze is folded over the point of the tent and down along each side, one end being left longer than the other. The gauze is now wet by dipping it into water. The cover, previously sterilized, is then slipped over the tent covered with the strip of gauze, the long end of which is left hanging out of the mouth of the cover. The tent is grasped in a pair of forceps by its lower end outside of its cover and inserted into the cervical canal. The vagina is then filled loosely with absorbent gauze which is made thoroughly wet. The capillary action of the gauze strip over the tent within the cover takes up the water from the gauze in the vagina and wets the tent, causing it to expand. Thus the tent expands inside of the cover and does not come in contact with the canal. Therefore a perfect aseptic, gradual dilatation is secured.

The physician's first duty is always to his patient, and her interest and security should be kept constantly before him. She must, therefore, be impressed with the importance of what is being done and must under no consideration be permitted to think any detail unimportant, or that she may with impunity neglect herself or miss appointments. Above all things, the case must not be dismissed nor must the patient be permitted to discontinue treatment until cured. She must be made to realize that relief of symptoms does not necessarily constitute a cure, and that the physician is the only one competent to decide this point. He must have her entire confidence, to be successful. Without this he would better not undertake the case. Her confidence can not be gained by incompetent and imperfect methods.

DISCUSSION.

DR. J. M. DUFF, Pittsburg—This has been a very important paper, one especially directed to the general practitioner. I want to call attention to one thing that I think the Doctor did not elucidate so as to bring out the best results, that is with regard to washing out the vagina. If you take the trouble to experiment, you will find that if you flush out the vagina and clean the vulva, and then go to work with your hands afterward, you are going to carry germs into the vagina. Hence, the important thing is to get the vulva clean. The normal secretions of the vagina are germicidal in themselves. If you do not sterilize the cervix before you introduce instruments into the uterus, where you have a catarrhal endometritis without the presence of pus-producing germs, you are very liable to carry them in and produce a septic condition. No matter whether or not we have a leucorrhea, it is a well-established fact that we do have latent germs in the cervix which can be carried up and infect the uterus. I may have misunderstood the Doctor, and if I have he did not bring this point out plainly.

DR. L. H. DUNNING, Indianapolis—I do not quite understand whether the essayist recommends his technique as a routine practice in general office work, or not. If so, and he had twelve patients, it would require one hour to scrub the hands

and another hour for scrubbing the vagina, and if the doctor has only two hours to spend in his office, there would be absolutely no time left for treating more than one patient. It seems to me that in applying tampons to the uterus, where the cervix is not entered, it will not be necessary to adopt all of his technique. I am under the impression that we can disinfect the vagina just as well by scrubbing as by irrigation and in one-half the time. If I desire to make an irrigation of the uterus I should disinfect by scrubbing with antiseptic soap and sterile cotton, using the Sims' speculum. We can do better in ten minutes than by irrigating half an hour, and the method is a much more cleanly one.

Regarding the technique for the ordinary application of the tampon in a private home, I think that if we have the nurse prepare everything for us before leaving the office and have the patient properly cleaned before we get there, it will be unnecessary to adopt this technique. The point of objection is the time it takes. I am sure that I could not get through with half my work if I had to go through all this preparation. The method I have resorted to is to have my nurse prepare my bag, sterilize two sets of instruments wrapped in sterile towels, so that I can make two visits. I instruct the patient on a previous visit how to prepare herself, and as soon as I arrive she takes the proper position and a very little time is lost in treating the case. After having treated two cases I return home for another outfit.

Dr. J. Wesley Bovee, Washington, D. C.—I consider it almost an absolute impossibility to sterilize the hands by a five-minutes scrubbing with antiseptic soap or anything else. You may make a culture and find them negative, but the hands are not sterile nevertheless. I should suggest the use of the rubber glove if we want to be particular, which for my part I am not. I do not believe that we can scrub the vagina and vulva sufficiently well for sterilization without an anesthetic. In the second place, I believe that the vaginal secretion is usually able to take care of the vagina. We do not need so much scrubbing if the ordinary well-washed hand is passed through the vulva widened by the fingers of the other hand. This is readily realized by recalling the many normal opportunities for such infection. If we went through all this technique in minor gynecology, we certainly would not have sufficient time to do our work, if we have more than one patient. Furthermore, you go to the house of one patient and before you can see another you must go home and sterilize your instruments.

Dr. William H. Humiston, Cleveland—I was very much interested in Dr. Goelet's paper. I yield to no man in carefulness in making examinations. I do not believe, however, that it is necessary to follow absolutely Dr. Goelet's instructions in making an examination. As Dr. Duff has stated, the danger from infection is not from the vaginal secretion, but from what exists on the vulva. I clean thoroughly the external parts. The ordinary office treatment of the uterine organs is harmful. I have yet to see the first case of any gravity successfully treated by ordinary office treatment, but I do meet with many cases which if they had been properly and aseptically treated early while the condition was a simple one, would not have gone on to the condition where they required active surgical interference. I had a physician come to me a short time since wanting to know how I could explain a certain case. A patient came to him with a leucorrheal discharge and suffering from dysmenorrhea. He treated tentatively for a time, but she did not improve. Finally, he concluded to curette the uterus a little at a time every third day, in his office, permitting the patient to walk home afterward. Within a week patient had a chill, high fever and an active pelvic inflammation. On examination, he noticed a marked change, the uterus being fixed and the roof of the pelvis as hard as a board. He wanted to know what to do. You can readily understand that he converted a simple condition into a complicated septic process by not instituting proper aseptic treatment and operation. These cases should be treated thoroughly. If after an examination a chronic condition is found, I do not believe that the case can be cured by office treatment. It requires a minor operation with hospital facilities. Then you can anesthetize, cleanse the vagina and vulva, which can not be well done without the aid of a brush, and you avoid many perils of careless office treatment with non-sterilized instruments. My office work is limited almost exclusively to examinations; further treatment, if necessary, is given in the hospital.

Dr. M. F. Porter, Fort Wayne, Ind.—In the cleansing of the vagina, or any part, I am of the opinion that we oftentimes do harm with the stiff brush. A few bacteria will not do very much damage in the presence of an intact covering. It is this idea that has led me to use something soft, like gauze pads or sponges, in cleansing the vagina and vulva. Then, I have the satisfaction of knowing that when I am through with my cleansing process, if I have not obtained an aseptic condition, I have at least not increased the number of infection atria. I do not believe that any amount of douching or distension, or both, will leave the vagina clean. I simply want to enter my protest against the use of a stiff brush. Another point in connection with aseptic technique: The doctor has referred to the fact that all of us are occasionally guilty of lapses in our technique. One of the best ways to rid oneself of these is for the doctor himself to have it distinctly understood by all those around him that the humblest individual is not only free but is invited to call the operator or his assistant's attention to any lapses which may occur. Each one of my assistants and nurses is told when he comes to work for me, that if he sees me about to err in my aseptic technique, he is at perfect liberty to call my attention to it and I thank him for doing so. None of us are perfect and we must never forget it.

Dr. Goelet, closing the discussion—I have learned considerable from this short discussion. One thing I have learned particularly is the necessity for such a paper as this. Asepsis of the vulva can be accomplished only by scrubbing, but for ordinary office work such an irrigation as I have described is sufficient. My paper is upon minor, not operative, gynecology. With this douche we also cleanse the vulva and when necessary to have it especially clean, I ask the nurse to scrub it. My portable rubber reservoir I use for work at the patient's house, where irrigation is required. As to cleansing the hands I agree that it is a very difficult matter to free the hands absolutely from germs, but I have had bacteriologic tests made of the hands after scrubbing them for five minutes with the antiseptic liquid soap mentioned, and all cultures taken after such scrubbing have remained sterile in every instance. There should be no objection to the time required for cleansing the hands. I am surprised that such objection should be raised. It takes nearly five minutes for the patient to get ready and to put her in position on the table, and while the nurse is preparing the patient, you can be scrubbing your hands. You owe this to your patient. Besides, such methods are going to bring more patients than slip-shod methods. There is no doubt about that. Women appreciate cleanliness in their physician.

I regret that there was not more said about the sponge-tent cover, as I have found it very satisfactory, although I do not restrict myself to that method of dilating the cervical canal.

Auto-Intoxications in Tropical Climates.—Crespin describes a hepatic form of typhoid fever common in Algiers and attributes the gravity of infections in tropical climates to insufficiency of the liver. The high temperature and the high hygrometric condition create a uniform medium unfavorable for the play of the reflexes. Consequently the emunctories, and especially the liver, are deprived of the excitations necessary for their normal functioning and hence remain torpid. On these grounds he has been administering liver extract in several cases of infections in his tropical practice, and has been highly pleased with the results; the hemorrhages and the delirium in particular rapidly improved. He recommended this organotherapy for further experiences at the International Medical Congress.

RESECTION AND ANASTOMOSIS OF THE DIVIDED URETER.*

HOWARD A. KELLY, M.D.

BALTIMORE, MD.

I desire to lay before the Section on Gynecology several matters in connection with resection of the ureter; and I shall take the liberty of including under my title not only those cases in which a piece of the ureter is sacrificed and the ends brought together—uretero-ureterostomy, resection in the stricter sense of the term—but those cases as well in which the vesical end of the ureter is sacrificed and the upper end is anastomosed directly into the bladder—ureterocystostomy—cases which for practical purposes may be included in the same category.

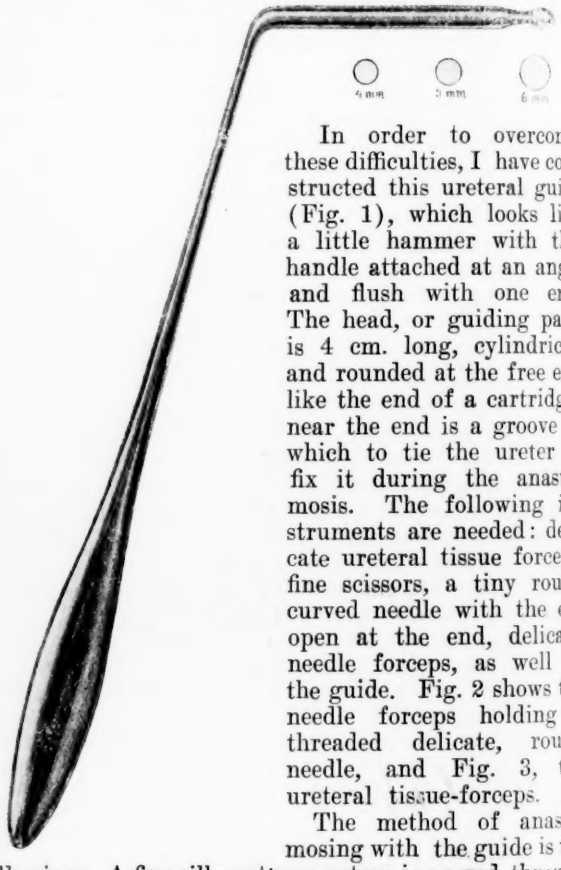
The importance of my subject is enhanced by two factors, measured by the importance of the ureter as an emunctory, and by its liability to injury in the course of an abdominal or of a vaginal operation. The difficulty in the way of a successful performance of a ureteral anastomosis can only be appreciated by one who has tried for the first time to secure accurate apposition of structures so delicate without unduly injuring the tissues and without allowing the silk sutures, which must be used, to appear on the mucous surface to form nuclei for the subsequent formation of calculi. I take it that a ureteral anastomosis is about as difficult and as delicate a piece of surgical work as we are called on to execute upon the human body, fully as delicate as the most difficult operation on the eye.

Injuries of the ureter requiring anastomosis are almost exclusively surgical, that is to say, they are produced in the course of operations when they can often be detected at once and immediately repaired. It is a fact of the utmost importance for the successful anastomosis of the injured ureter that the injury is almost invariably confined to the pelvic portion of the ureter, and if any part is sacrificed the loss is limited to the pelvic end. The injury is, for the most part, involuntary on the part of the operator, as when he cuts a ureter for a blood-vessel, or unwittingly picks it up, as I did recently, along with the ovarian vessel at the pelvic brim and ligates and divides it there. In other instances it is torn out of the pelvis with an adherent ovarian cyst, myoma, pyosalpinx, extrauterine pregnancy, or tubercular mass. A voluntary sacrifice is made when the ureter passes through a carcinomatous mass in the broad ligament.

It is my desire to-day to throw some light upon the important practical question, how to deal with a divided or a resected ureter. In the first place it is important to make sure that the ureter is a live one. Occasionally the disease which necessitates the pelvic operation has so completely occluded the ureter that it is dead, and if brought out into the surface of the body no secretion escapes from it. This has happened in some five cases which I have collected from the literature; one of the first was a patient of Schröder's, in which the divided ureter was sewed into the abdominal incision but no secretion ever escaped from it. One of the last was a case of Dr. Fullerton, also seen by Dr. C. P. Noble, in Philadelphia, with the view of determining the functional value of the ureter. I would pass my hand into the abdomen and see if the patient had a normal kidney on that side. If it proved to be atrophied or sclerotic I would then not go to the trouble of making a delicate anastomotic operation.

There are two ways of anastomosing the injured ureter: 1, anastomosis of the ureter into itself—uretero-ureterostomy; and 2, anatomosis into the bladder—ureterocystostomy.

Uretero-ureterostomy is to be preferred when both ends are accessible, and when there is no obstruction between the lower end and the bladder, and when the lower end does not have to be sacrificed as in extensive carcinoma. Anastomosis into the bladder is the best way to restore the continuity of the urinary tract when the lower end of the ureter has been destroyed, is blockaded, or is inaccessible. Anastomosis of the ureter into itself is best adapted to joining the divided ends in the posterior part of the pelvis, between the pelvic brim and the broad ligament. The success of an anastomotic operation depends on the accurate union without injury of the delicate ureteral structures; and this is rendered difficult by their flaccidity and sometimes by the difference in caliber.



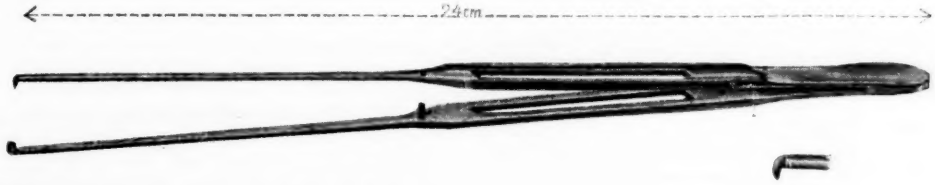
In order to overcome these difficulties, I have constructed this ureteral guide (Fig. 1), which looks like a little hammer with the handle attached at an angle and flush with one end. The head, or guiding part, is 4 cm. long, cylindrical, and rounded at the free end like the end of a cartridge; near the end is a groove in which to tie the ureter to fix it during the anastomosis. The following instruments are needed: delicate ureteral tissue forceps, fine scissors, a tiny round curved needle with the eye open at the end, delicate needle forceps, as well as the guide. Fig. 2 shows the needle forceps holding a threaded delicate, round needle, and Fig. 3, the ureteral tissue-forceps.

The method of anastomosing with the guide is the following: A fine silk mattress-suture is passed through the under surfaces of the cut ends and tied, bringing them snugly together. A longitudinal slit is then made in the upper part of the ureter 2 cm. distant from the end, just large enough to admit the guide easily. The rounded end of the guide is then pushed through the slit into the ureter down through its open end and well into the lower end, where it is loosely tied behind the swelling at the head to hold it in place during the passage of the rest of the sutures (Fig. 4). The end-to-end anastomosis is now completed by passing fine silk sutures, either interrupted or mattress, with the sides very close together, at intervals of from one to one and a half millimeters, including all the coats except the mucosa. During the suturing, the ureter can

*Presented to the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

be rotated from side to side by moving the handle of the guide. At the completion, the string tied around the lower end of the guide is cut and the guide withdrawn. The success of the suturing may now be tested by injecting water with a syringe through the cut and seeing it flow freely down toward the bladder without leakage at the junction of the ends. The slit is next readily closed by three or four fine mattress sutures of silk as after any other simple ureterotomy.

I have the guides made in three sizes. When there is a marked difference in caliber between the upper and lower portions of the ureter, I use the larger size to dilate the smaller end and to facilitate the exact end-to-end approximation. There is a good deal of just complaint about the multiplication of special instruments, but no instrument is *de trop* which facilitates a difficult and a delicate operation. The surgeon who rarely has to do these operations can easily extemporize



a guide by whittling a piece of wood the desired shape, fixing a thread or a long needle in one end and sterilizing this very satisfactory makeshift and using it as above described.

The anastomosis of the ureter into the bladder is effected in a similar way. A hole is made in the top peritoneal surface of the bladder and the guide slipped in and the right or left vesical cornu pushed out in the direction of the divided ureteral end, and an opening made at the nearest point, just large enough to admit the ureter. The end of the guide is then slipped well up into the ureter and tied, and the ureter, with its lower end slit up for at least half a centimeter, is drawn well into the bladder and stitched on all sides to the muscular vesical wall. After this the guide is removed and the abdomen closed with a small gauze drain in event of leakage.

The following cases are ureteral anastomoses I have made in the Johns Hopkins Hospital for a variety of injuries:

Case 1.—Cancer of the cervix, involving the ureter on the right side; vaginal operation. The anterior portion of the ureter was deliberately sacrificed with the uterus and the upper end anastomosed at once into the bladder. Recovery; anastomosis perfect,

Case 2.—Ureter involved in a cancerous ovary in a woman 72 years old. Deliberate sacrifice of the ureter from the pelvic brim forward. Ureter stitched into bladder. Recovery; no leakage.

Case 3.—Cancer of the cervix, abdominal operation. Ureter involved; sacrificed. Anastomosis into the bladder. Recovery; no leakage.

Case 4.—Ureter attached to a large fibroid tumor involving ilium, cecum and vermiform appendix. Resection of 9 cm. of ureter, ends brought together. Some leakage at first; afterward perfect recovery.

Case 5.—Ureterovaginal fistula and vesicovaginal fistula; anastomosis of ureter by abdomen into bladder. Recovery; leakage from vesicovaginal fistula.

Case 6.—Ureter involved in malignant ovarian tumor. Enucleation with removal of almost the entire pelvic ureter; anastomosis into the bladder. Death on the third day from unknown cause. Autopsy not allowed.

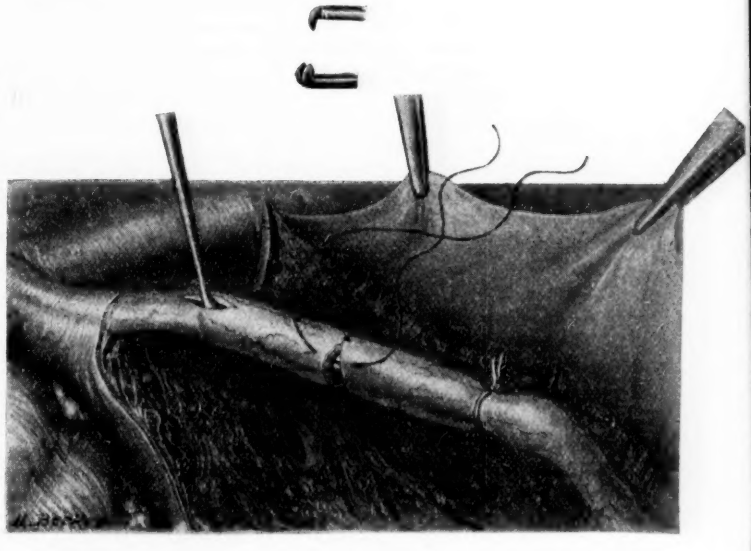
These operations were all done by the older free-hand method, and I have not yet used the guide on the living subject.

Case 1.—Ureter imbedded in a mass of carcinomatous tissue. Divided 2 cm. from bladder; resected and upper end implanted into the bladder; recovery. (Gyn. No. 6831.) Mrs. S. L., white, aged 35 years.

Diagnosis: Carcinoma cervicis uteri, extending laterally into the broad ligaments well onto the lateral walls of the pelvis, and anteriorly well out into the perivesical tissue.

Operation: 1, Thorough curettage of the cervix, removing as much as possible of the friable carcinomatous tissue. 2. Catheterization of the ureters. 3. Abdominal hysterosalpingo-oöphorectomy. 4. Ureterocystostomy.

After removing the uterus, tubes and ovaries a distinct carcinomatous nodule still remained on the right side, extending well out to the pelvic wall and upward to the bladder. After some dissection the ureter was found markedly displaced, running downward from the bladder and then sharply curving on itself to run directly upward, being entirely surrounded by diseased tissue. It was found impossible to dissect out this nodule without injuring the ureter, so it was at once severed



2 cm. below the bladder. The nodule was then thoroughly and most carefully dissected out.

Implantation of the ureter into the bladder was accomplished in the following manner. A sound was introduced into the bladder and pressed firmly down upon the bladder wall a little anterior to the orifice of the ureter; the bladder wall was then incised just over the sound; next, the lower end of the ureter was split for .5 to 1 cm. down its lumen to avoid constriction. This end was then introduced over the sound and passed into the bladder. The next step was to very accurately approximate the bladder wall around the ureter, the end of which was now standing erect inside of the bladder. Approximation was neatly and accurately accomplished by passing catgut sutures through the outer portion of the bladder surface, then just lightly catching the surface of the ureter, catgut sutures only being employed. The first few of these sutures were passed just at the edge of the bladder and then into the ureter; the next set took firmer hold on the bladder

and a larger bite into the ureter at a greater distance on its surface from its point of entrance into the bladder.

The patient made a perfect recovery, with no leakage from the bladder.

CASE 2.—Ureter surrounded by carcinomatous tissue and resected from the pelvic brim to the bladder. Anastomosis of upper end of ureter into bladder. Recovery. (Gyn. No. 7372). Mrs. M. F., white, aged 72 years.

Diagnosis: Cystoma of both ovaries. Carcinomatous degeneration of the right cystoma.

Operation: 1. Abdominal hysterosalpingo-öophoro-cystostomy. 2. Ureterocystostomy.

Removal of the cystomata with the tubes and uterus was extremely difficult—slow and painstaking—on account of numerous exceedingly dense adhesions to the small intestines and the rectum on all sides. When the left cystoma and the uterus were tied off and freed they still remained attached to the cystoma on the right side, which was also gradually freed, but was found to contain at its base a cancerous mass extending down in the broad ligament to the ureter, which it surrounded. The tumors and the uterus were then removed in one mass and the remainder of the operation directed toward the removal of the cancerous tissue in the broad ligament. This was slowly enucleated by tying on all sides in the sound tissues and removing the ureter with it from the pelvic brim forward to its vesical portion. The ureter was then implanted into the bladder in the following manner: The bladder was separated anteriorly from its attachments to the anterior abdominal wall sufficiently to throw it well back and allow the ureter to reach it near the fundus. On the right side of the pelvis an opening was made through the peritoneum, where it was reflected from the bladder onto the pelvic wall; the ureter was carried through this and thence into an opening made into the bladder, where it was securely stitched by several small silk sutures. The junction of the ureter and bladder was in this way made extraperitoneal. The opening into the peritoneum was about 3 cm. from the point of entrance into the bladder. The connective tissue and the bladder wall were stitched over the point of junction of the ureter and bladder, thus reinforcing the line of original sutures. The implantation of the ureter in this manner puts it on considerable tension.

Result was excellent. No urinary fistula nor any sign of leakage from bladder.

CASE 3.—Ureter embedded in carcinomatous tissue; its lower 5 or 6 cm. resected; upper end implanted into bladder. Recovery. (Gyn. No. 7510.) Mrs. S. C., white, aged 56 years.

Diagnosis: Carcinoma cervicis uteri. Bicornuate uterus with left rudimentary horn, left tube absent.

Operation: 1, Curettage of cervix uteri. 2. Catheterization of ureters. 3. Hysterosalpingo-öophorectomy.

The operation was begun by the abdomen on the left side. The first ligature was applied at the junction of the round ligament and the ovarian ligament, the ovary being left behind. Dissection was continued along the wall of the pelvis until the ureter was exposed and bared to its entrance into the bladder, 5 to 6 cm. The vesical peritoneum was then pushed well down; the ureter was pulled gently toward the pelvic wall and the dissection continued toward the vagina beneath it, all vessels being tied as they were reached. The right side was begun in the same way. On reaching the ureter it was found passing through the carcinoma. It was dissected free up to its entrance into the growth, where it was cut off. The dissection toward the right pelvic wall was continued apparently outside of the carcinoma. The vagina was now entered anteriorly and the enucleation continued around the vagina, leaving a cuff of vaginal wall on the uterus on all sides. The uterus, with its carcinomatous extension, was then removed. A long clamp was pushed into the bladder *per urethram* and an opening made by cutting down on it from above. The end of the ureter was split for about 5 cm. A silk suture was then passed through the ureter and through the bladder opening and the bladder wall at a lower point and the end of the ureter drawn into the bladder. It was sutured here with fine silk sutures. Peritoneum was brought over both ureters.

Result excellent. No leakage from bladder.

CASE 4.—Ureter, terminal portion of ileum and vermiform appendix and commencement of large bowel inseparably attached to a large abdominal fibroma. Resection of 9 cm. of ureter, 16 cm. of ileum, 14 cm. of large intestine, and removal of vermiform appendix. Recovery with a persistent ureteral fistula. (Gyn. No. 7521.) M. P., negress, aged 33 years.

Diagnosis: Large solid abdominal tumor, extremely vascular, having inseparable attachments to the bowel and the ureter. (It was found by microscopic examination to be a fibroma.)

Operation: An attempt was first made to shell the tumor out of its capsule, but the bleeding was so profuse on incising it that this plan was abandoned. The only remaining plan of procedure was to remove the entire tumor with the adherent portion of the bowel and ureter. The vermiform appendix was seen on the under surface of the tumor, on the upper surface the head of the cecum and ascending colon spread out with the lower end of the ileum. The portion of the intestine removed includes the terminal 16 cm. of the ileum and the proximal 14 cm. of the large bowel. The portion of the ureter removed measures 9 cm. in length. The ends of the intestines were next united by end-to-end anastomosis without the aid of bags or LaPlace forceps, three preliminary sutures bringing the ends into approximation; next a row of mattress fine-silk sutures and a few intermediate Lembert sutures. The mesentery, which well supplied the intestine with blood at the point of anastomosis, was united by sutures. The ends of the ureter were next united by end-to-end anastomosis. The upper end was much larger than the lower, the ureter being dilated above the tumor and atrophied below it. The lumen of the kidney end of the ureter was at least twice the size of the bladder end. Suturing was difficult and the approximation was, on account of the difference in size of the lumina, not as satisfactory as could have been desired. After completing the anastomosis, pressure on the ureter above caused a distension above the point of union. The ureter was also quite tensely stretched, owing to the removal of so large a section of it. A gauze drain was placed in contact with both anastomoses and brought out of the lower angle of the wound.

The patient made a good recovery, but was discharged with a persistent ureteral fistula.

CASE 5.—Ureterovaginal and vesicovaginal fistulæ, surrounded by dense scar tissue. Division of the ureter just in front of the uterine artery and closure of the vesicovaginal fistula. Recovery, with persistence of vesicovaginal fistula. (Gyn. No. 7569.) L. C., white, aged 46 years.

Diagnosis: 1. Adherent, myomatous uterus. Tubes and ovaries also adherent. 2. Ureterovaginal fistula. 3. Vesicovaginal fistula.

Complications: 1. Scar tissue involving the vaginal opening of the ureter. 2. Periureteritis.

Operation: (Twenty-four days prior to the present operation the patient had been operated on for complete laceration of the rectovaginal septum and at the same time an unsuccessful attempt was made to close the ureterovaginal fistula.)

After removing the uterus, tubes and ovaries in the usual manner, from left to right the stump of the cervix was grasped with tenaculum forceps and pulled up and to the right. The ureter was exposed just below the pelvic brim by pulling open the layers of the broad ligament. It was about two and a half times its normal size and injected, not white. The ureter was caught and dissected out by carrying the finger under it and pushing on down and freeing it forward without detaching it from the peritoneum. In this way the vessels crossing the ureter were brought up into view and tied without risk of involving the ureter. The ureter was then tied well forward just in front of the uterine artery and divided back of the tie. The bladder was now opened for 5 cm. in the median line and its interior inspected. It was found healthy and the vesicovaginal fistula was seen out by the left pubic ramus, 8x3 mm. The bladder was opened in the left cornu at a point near the ureter by introducing forceps and pushing the wall out at this point and cutting down on the forceps. The ureter was incised for 7 mm. and then drawn into the bladder by fine forceps passed in through the incision above and out of the hole made for the ureter. The ureter was then sewn into the bladder

opening with fine silk, grasping all but the mucosa in the bladder wall and ureteral wall.

The vesicovaginal fistula was closed by denuding the mucosa and uniting with fine catgut.

The incision into the bladder above was closed with a line of catgut sutures. A finger was thrust under the peritoneum on the left side, making a hole down to the ureteral anastomosis for an extraperitoneal gauze drain. The peritoneum was united over the ureter and the bladder and peritoneum closed entirely.

There was for a short time after operation some leakage from the bladder, a small amount of urine escaping through the abdominal incision via the drainage tract. This fistula closed entirely before the patient was discharged from the hospital.

A vesicovaginal fistula persisted after the operation.

CASE 6.—Ureter involved in a malignant tumor, resected above the pelvic brim; implantation of the upper end of the ureter into the bladder. Sudden death from unknown cause on the third day after operation. (Gyn. No. 7653.) Mrs. R. D., white, aged 67 years.

Diagnosis: Left cystoma ovarii with malignant disease at its hilum extending into the broad ligament.

Operation: I, Hysterosalpingo-öophorocystectomy. 2. Ureterocystostomy.

When the cyst on the left side was brought out it was found to be anchored fast, the left broad ligament being infiltrated with a mass of dense nodules. It was impossible to expose the broad ligament and see the vessels, so I lifted up the sigmoid and cut the peritoneum over the pelvic brim on the outer side and dissected it up and exposed and ligated the ovarian vessels first 3 cm. above the pelvic brim, then on the ovarian side and cut between the ligatures. The left round ligament was then enucleated from the pelvic connective tissue, clamping the left uterine cornu and all bleeding vessels and lifting it up *pari passu*. The ureter, which was adherent to its under surface, was cut on the front of the broad ligament and posteriorly above the pelvic brim. The anterior end was about half the size of the posterior, small and delicate, and retracted out of sight, being found only at a later stage—after opening the bladder and passing a catheter down the ureter from the vesical end—when it was tied to prevent any possible reflux of urine. The entire uterus and the right lateral structures were removed.

The next step was the anastomosis of the ureter into the bladder. I did not try to bring the two ureteral ends together, as the front end was so small and restricted, and moreover the bladder could be brought farther back than could the vesical end of the ureter.

The bladder was loosened and pulled back on the left side until it touched the posterior brim of the pelvis. I then opened the bladder by an incision 5 cm. long in the median line anterior to the peritoneum. The urethral and ureteral orifices were seen and there was no disease in the bladder. The portion of the bladder which could be displaced farthest back toward the ureter was found anterior to the left vesical cornu. An artery forceps was pushed through at this point, catching the ureter and drawing it into the bladder. It was split 5 mm. and turned open and caught with four mosquito-forceps, and then sutured from the vesical side, catching the whole thickness of the ureter and the mucosa and submucosa of the bladder. In this way was accomplished a perfect attachment of the ureter without any narrowing of its lumen, which opened trumpet-like into the bladder. The incision into the bladder above was closed. The bladder was then drawn up and attached to the pelvic brim and to the sigmoid.

After operation there was some leakage from the bladder, as indicated by the escape of urine via the pelvic drain.

The patient died suddenly on the third day after operation from an unknown cause. Autopsy was not allowed.

DISCUSSION.

DR. L. H. DUNNING, Indianapolis—I was very much interested in the paper of Dr. Kelly, because it brings up so clearly a subject which confronts us occasionally in our operative work. I can see how the advice will be of assistance to us. Two years ago, I encountered a case such as he described, but I was not provided with special instruments for the purpose of bringing the ureter into the bladder. I finally resorted to a very simple method, which enabled me to effect that purpose with very good results. The ureter in this case was displaced by a pelvic cellular abscess occurring seven weeks after confinement. It was carried over the top of the abscess and accidentally torn in the operation. I introduced a uterine sound into the bladder through the urethra, carrying it to the point nearest the severed ureter, cut down on it, carried it through, reaching the ureter, into which I introduced the sound. Then, I gradually drew the ureter into the bladder, and fixed it there without any stretching. That little device of carrying it over the end of the uterine sound is what made our operation easy. I encountered a case a short time ago, in which I desired to graft the end of a torn ureter into the bladder, although subsequently I was glad I did not do such grafting. It was a case of cancer of the uterus, with suppuration of one tube and ovary. During the operation we injured the ureter, and four weeks afterward, when the patient had recovered from the operation I desired by abdominal section to fasten the ureter into the bladder. I washed out the ureter a few times, hoping to clean out the pus which had accumulated there, in order to prevent infection of the kidney. We found the pelvis of the kidney already infected so that I desisted from doing anything more to the ureter. I think extirpation of the kidney was in that instance the proper procedure. It was accomplished with the most happy results.

DR. J. WESLEY BOVEE, Washington, D. C.—I did not hear all of Dr. Kelly's paper, but we all know the careful, scientific work that Dr. Kelly has done in this regional anatomy and pathology. The subject is one of considerable interest to me as I have spent much time on it in the last few years, having had a few cases of this kind. Many times this operation is necessary for cases other than accidental injury during the operations. A large proportion of injuries follow childbirth, as ureterovaginal fistula; a certain proportion are due to congenitally abnormal openings, abscesses rupturing into the ureter, tuberculosis and diseases of the ureter itself. I think there have been about 80 cases of ureteral anastomosis into the bladder, about equally divided between those due to injury and those due to disease.

Of the various operations I think uretero-ureteral anastomosis is the best. The next best is the switching of the ureter into the bladder; the next, into the vagina; the next, into the bowel, which is a much discussed question at the present time, and lastly, switching the ureter to the surface of the body. In the latter, infection is positive, whereas in implantation in the bowel there may not be any infection. The experimental work with the latter method is probably not as satisfactory on dogs as on the human being, owing to the small size of the dog's ureter. Then, too, we have no control over the animal after operation such as we would have over a patient. I think the extraperitoneal method of attaching the ureter to the bladder is better than the intraperitoneal, as it is practically a minor operation. The only danger, as Dr. Kelly mentioned, is the too great tension on the ureter. Pozzi found that in one of his cases ten months after an operation for hernia, the ureter was very markedly distended and at the junction of the bladder it was very much contracted. If there is too much traction on the ureter the caliber is decreased at the bladder junction.

Another point is to make the anastomosis as obliquely as possible. It is impossible to establish a condition anything like the normal, because of the little muscular structure running from the ureter to the orifice of the urethra, tending to pull down the mouth of the ureter as the bladder expands. About two years ago, in a case of cancer of the uterus, I found the ureter passing through a cancerous mass, and I removed the lower inch and a half, transplanting it into the bladder. That was a case of injury to the ureter and of transplanting it into the bladder by election. The patient is still alive and free from trouble. Dr. Polk, of New York, and Krause have performed this operation for the same purpose.

DR. KELLY, closing the discussion—In anastomosing the ureter in the bladder I follow one of two plans. I either bring the ureter in opposition with the vesical opening by using one of my guides, or I draw the ureter well into the bladder by means of a pair of alligator forceps suggested by Sänger for this purpose. The forceps are inserted through the urethra, and then through the bladder wall, and so used to pull the ureter into the bladder, when it is held and sutured there. I have a guide on the end of the forceps, in the form of a long tongue, which projects into the ureteral lumen, thus preventing any contraction of the ureter. The statistics are so meager that it is desirable to have all cases recorded, and I am sure there are many.

LESSONS FROM A FIRST SERIES OF ONE HUNDRED CATARACT OPERATIONS.*

F. T. ROGERS, M.D.
PROVIDENCE, R.I.

The man who fails to study his case records, and thus gain confidence by reason of his successes and profit by his failures, does not take advantage of the best way of perfecting his medical education, begun in college; he is at his graduation but ready to learn. The successful physician is one who appreciates this fact and finds in each case fresh instruction, in each success added confidence, in each failure a warning of incomplete preparation.

It is neither because I can add to the sum of human knowledge by a recital of personal experiences, and instruct this Section concerning the technique of cataract extraction, nor gain personal glory or added notoriety that I report these cases, but because during six years of attendance at these meetings I have not heard adequately discussed the results of cataract extraction from a beginner's standpoint.

Masters of operative skill have reported their cases by hundreds. We are wont to listen with admiration to their recital of good results, but aside from the incentive to renewed exertion we gain little practical good. I am speaking to-day to the younger element, the tyros of operative skill, in the hope that profit may result to them from the discussion of evident mistakes and the bad results obtained just as I have personally gained by a study of these records.

I am at the start impressed by one fact, that a certain proportion of the bad results I have obtained has been due to the poor selection of cases. The young man beginning operative work is apt to allow his judgment to be warped by his desire for another operative case. The eagerness to operate overcomes the possibility that a successful result will not be obtained, and when but moderate vision is secured it may be due to the fact that the vision was not there as well as to some fault of the operator.

I am convinced that not enough attention was paid to the general condition of the patient, and that the ideas advanced before this Section three years ago by Dr. Knapp in regard to the effect of any systemic disturbance on the ultimate result were not sufficiently impressed on me at the time. The existence of bronchitis, nephritis and rheumatism in patients undoubtedly influenced the healing process, although prior to the operation this did not seem important.

If, however, we operate upon patients to benefit them and not to gain a record for perfect vision, even partial success is to be desired if it ameliorates the condition and improves in any degree the vision of the patient. The operator who can change total blindness to even ability to get about, is deserving of some credit. As an evidence of this I cite one case:

CASE 52.—Mrs. M. W., 64 years of age, suffered, in 1896, from acute glaucoma of the right eye, for which an iridectomy was done five days after the onset of the disease, when the patient was first seen; but the resulting vision was nil. L. V. was at that time 0.5 with +1.50. Two years later glaucoma of the left eye occurred, for which an iridectomy was done within twenty-four hours with relief of pain and slight improvement of vision; but within a month the lens became opaque and the patient totally blind. There was good perception of light but poor projection and I decided to operate for possible relief after a frank statement to the patient of the possibilities of failure.

An easy extraction with dense capsule and a secondary discission gave her an ultimate vision of 18/200 with +13, and her later years have been rendered happier, at any rate. Although by current rating this operation can not be classed a success, to my mind it is one.

The series includes operations upon the following:

Senile cataracts of varying degrees of maturity	92
Traumatic cataracts	2
Congenital cataracts	5
Soft cataract	1

The preparation of the patient has included the careful cleansing of the lids, lashes and brows with soap and water and a solution of bichlorid 1 to 5000, and in hospital cases the application of a bichlorid poultice for twelve hours before operation. When any secretion was noted on its removal the operation was delayed until the existing trouble had been treated. Cocain was used in all cases except four congenital cataracts, and just before operating the eye was flushed thoroughly with a warm solution of boric acid. The instruments were sterilized either by steam or formaldehyde and placed in absolute alcohol, and all dressings were rendered sterile by steam. I have no knowledge that any eye was lost by reason of carelessness in the preparation of either patient or instruments.

The after-treatment was in the ordinary room or ward and with a subdued light, but without darkening it; with few exceptions all dressings during the first week were done by myself. The results in acuity of vision were as follows:

Vision of 1.0, 6 cases; vision of 0.9, 7 cases; vision of 0.8, 14 cases; vision of 0.7, 12 cases; vision of 0.6, 7 cases; vision of 0.5, 14 cases; vision of 0.4, 9 cases; vision of 0.3, 7 cases; vision of 0.2, 3 cases; vision of 0.1, 8 cases; count fingers, 3 cases; light perception, 4 cases; nil, 5 cases. Total, 100 cases.

This shows an average vision of 0.502 and, if 0.1 be assumed as useful vision, 88 per cent. of successes, 3 per cent. of partial success and 9 per cent. of failures.

The operative procedure was: Simple extraction, 18 cases; extraction with iridectomy, 66; extraction following preliminary iridectomy, 8; needling, 7; suction, 1; total, 100.

Concerning the method of operating, I am convinced that difficulty in making a clean corneal section has been increased and the success of the operation endangered by insufficient illumination. Once, I have been obliged to withdraw the knife and postpone the operation on account of inability to see the blade distinctly when introduced into the anterior chamber. I believe that a routine practice of illuminating the field of operation by a condensing light, electricity in the hospital

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and an acetylene light in private houses, is a decided help to success. Outside of special hospitals it is difficult to gain skilled assistance and the surgeon is compelled to rely on himself. It has happened in my earlier cases that, while the fixation forceps were held by an assistant, interest in the operation frequently distracted his attention from his own duties so that undue pressure was made with the forceps; hence for several years I have not used an assistant but, holding the fixation forceps myself, I am able to make counter-pressure against the knife and thus aid its introduction and exit.

A conjunctival flap was made in twelve cases, but there was so frequently a hemorrhage which obscured the field of operation that I have not lately used it save when accidentally made. In a large majority of cases the knife has, just before the completion of the section, been turned outward and the exit made in clear cornea about one millimeter from the sclerocorneal margin. Although such a section, it is stated, is more likely to entangle the iris and more liable to primary or secondary infection, it has not proved so in my experience. I have found the flap to close accurately, prolapse of the iris has been less frequent and I have seen no reason to discard the practice save that it is not advised in the books.

After the corneal section I remove the speculum, and make the cystotomy while holding the upper lid by pressure over the orbital arch. My losses of vitreous—seven cases—all occurred with the speculum in place. The accident has not occurred when the lid has been held.

Cystotomy has been made by the semicircular and crucial incision, and I am unable to detect any difference in the ease of extraction or the resulting condition of the iris and capsule. Simple extraction was done in but eighteen cases, the combined operation in sixty-six cases, and I am led to prefer the method with iridectomy for the following reasons:

1. In one sense it simplifies the operation, rendering it easier to expel the lens and soft cortical matter through the large coloboma, and lessens the frequency of secondary cataracts.

2. There is less danger of prolapse of the iris.

3. The clean excision of the iris is no more likely to cause inflammatory action than the traumatism to which it is subjected by the expulsion of the lens in simple extraction.

4. It requires less skill and delicacy of touch, and thus lessens the danger of complications.

5. With care in replacing the angle of the excised iris and any bits of capsule, there is no greater danger of incarceration in the lips of the wound.

6. It does not materially affect the mobility of pupil.

7. While the cosmetic effect is not so perfect as in the simple extraction, the upper lid so completely hides the coloboma that, even if the cosmetic effect was the desideratum instead of acuity of vision, there would be little in favor of the simple method.

8. Visual acuity is nearly the same; according to Gayet it is the same. In my cases the average vision in the cases of simple extraction is 0.48 and in the combined operation is 0.47. The proportion of complications in the two methods was as follows:

	Uncomplicated.	Prolapse of Iris.	Iritis.	Visual Acuity.
Simple operation; 18 cases	10 cases. 55 per cent.	5 cases. 27 per cent.	5 cases. 27 per cent.	48
Combined operation; 66 cases	37 cases. 57 per cent.	1 case. 1.5 per cent.	14 cases. 21 per cent.	47

The combined operation has its drawbacks: It is prolonged, more painful and possibly increases the danger of infection, although with the means at our command this is reduced to a minimum, but to the average man it is safer and gives as good or better results.

The ideal operation is the one with the preliminary iridectomy, and in eight cases where this was done there was uncomplicated healing in seven. Personally I am of the opinion expressed by many authorities that had I a cataract requiring operation I would have a preliminary iridectomy; one can hardly give better advice to a patient than that which he takes himself.

Artificial ripening of the lens was done in five cases, and was in every case entirely satisfactory. Preliminary iridectomy with gentle massage of the cornea sufficed to render the lens mature in from three to six weeks, and the extraction was invariably easy and satisfactory. The resulting vision was 0.3, 0.5, 0.9, 0.5, 0.7.

The suction operation was done once, with resulting perfect vision. The needle operation was done seven times with resulting vision of 0.3, 1.0, 0.9, 0.5, 0.6, 1.0.

Secondary discission was done in twenty-seven cases with a maximum increase of vision of 0.8, a minimum of 0.1 and an average of 0.4. Following the secondary operation there developed in four cases a mild iridocyclitis, in three a severe attack, but in all there was in time a complete subsidence of all inflammatory action.

Failure to obtain useful vision occurred in twelve cases. Of these, three are able to get about with difficulty, four have bare perception of light, and in five the eye was lost. This unfortunate termination occurred as follows:

Case 6.—A female patient, 65 years of age, was operated on at St. Joseph's Hospital. The modified Graefe operation was made without difficulty, and until the sixth day recovery was uneventful. She was treated in the open ward and on the evening of the sixth day a new patient was admitted and placed in the next bed. During the night a large psoas abscess was evacuated and the bed and bedding were well soaked with pus. Forty-eight hours later there was swelling of the lids, chemosis of the conjunctiva, and, in spite of treatment, panophthalmitis developed and phthisis bulbi resulted.

Case 38.—Simple extraction in a woman of 60 years. On removing the dressings on the second day there was found beginning panophthalmitis, and the eye was lost. I have no knowledge of the source of infection, save possibly this, that the operation was done in the presence of a number of physicians who were visiting the hospital and one had come directly from a case of puerperal septicemia.

Case 66.—Modified Graefe operation was made on a man of 75 years and in poor health. The operation was smooth, and aside from slight iritis there was an uninterrupted recovery but no vision. Examination showed almost complete detachment of the retina; it probably did not occur after the operation and it was an error of judgment to operate the case, although it may have occurred at the time of the extraction of the lens.

Case 89.—Female, aged 71 years, underwent a smooth operation and perfect convalescence until the eleventh day, when there was noted a slight puffiness of the lids with beginning chemosis of the conjunctiva. The dressings, solution of atropin and droppers were taken immediately to the state laboratory and were pronounced sterile, but the eye was lost in forty-eight hours. Examination of the purulent discharge showed a small rod-like bacillus of great activity which rapidly affected the

culture-medium, but gave no intimation of the source of infection.

CASE 94.—Male, aged 84 years, had the wound infected on the second day, and ten days later enucleation was done. This case was undoubtedly infected by the unclean fingers of the patient, as he tore the bandages from the eyes and rubbed them violently the first night and was so unruly that no covering could be kept on the eye.

Of the four cases resulting in perception of light two may be designated as accidents pure and simple.

CASE 9, was a simple extraction of soft cataract. The operation was done in a boarding-house and the patient was on the third floor. During the night while the attendant was asleep he arose from the bed and went down the three flights of stairs to an out-house in the yard. Returning in apparent safety he miscounted the stairs and turned into the room on the second floor just under his own, and groping his way he deliberately crawled into bed with a man and his wife. Aroused from sound sleep by this unwelcome intruder the occupant of the room seized the patient by the collar, marched him to the door and calmly kicked him downstairs. The next morning I found the wound open and a large hernia of the vitreous. Recovery was slow but without useful vision.

CASE 26.—On the seventh day while making an uneventful recovery, a fly crawled into the nose of the patient and caused a violent attack of sneezing. The wound was opened with loss of vitreous and a resulting iridocyclitis, which resulted in a blocked pupil and although two attempts were made to improve the vision by discission and an iridotomy the result was not favorable.

In Cases 20 and 60, iritis of a severe type on the fifth and sixth day produced a tedious convalescence and blocked pupil.

CASE 91.—Male, 69 years of age, was referred to me by another oculist with a request that I operate on him in the hospital. The patient was not seen until on the table, when I found a large fleshy pterygium on the cataractous eye. Although my judgment was against operating, I finally did so, making the corneal section somewhat obliquely so as to avoid the pterygium. A severe keratoiritis developed and the ultimate vision was for large objects.

CASE 88, was a hospital patient of exceedingly filthy habits, and there was an infected wound. Hot fomentations and the persistent use of pyoktanin checked the destructive process so that the eye was saved, but without useful vision.

Similar infection of the wound occurred in two other cases, one in private and one in hospital practice: The first was infected by the finger of the patient on the tenth day and, although the wound was infiltrated and the cornea like ground-glass, faithful and persistent use of hot fomentations and pyoktanin finally controlled the process and gave an ultimate vision of 0.8. The second case was infected on the fifth day and the vision for a week reduced to bare perception of light. Under the same treatment the vision finally gained was 0.6. Various minor accidents occurred which were annoying to both patient and operator, but did not materially affect the ultimate vision.

From a careful study of these cases and from experience gained in my first hundred operations on the lens, while perhaps not befitting me to give advice to others, I am able to draw the following conclusions which will at any rate guide me in future operative work:

1. More attention should be paid to the general condition of the patient, and the presence of any systemic disturbance should influence the prognosis.

2. All operative procedures on the crystalline body should be done under the best possible illumination.

3. Providing that it is large enough, the exact site of the corneal section does not materially influence the result.

4. The combined operation is the safest and the easiest for the operator of limited experience.

5. The most frequent complications, iritis and iridocyclitis, should be combated by the early instillation of atropin, and their existence does not necessarily prevent an ultimate good result.

6. Discission of the capsule can be done with comparative safety and materially increases the acuity of vision.

7. Infection of the wound does not in all cases destroy the sight, and careful and assiduous treatment may save an apparently doomed eye.

8. The experience gained in the first series of operations has, besides improving the technique of operation, impressed me profoundly with the possible dangers which may arise and will prevent me from advising operative procedures so freely as I have done in the past without a frank statement to the patient of the possible outcome.

9. For some reason, which I hope will be brought out in the discussion, I have had more iritis in these cases than I should, but whether due to defective skill in operating or insufficient care in the after-treatment I am unable to decide.

DISCUSSION.

DR. E. E. HOLT, Portland—I have been very much interested in this paper and I think we should all welcome reports of cases carefully taken down and the deductions made from them. When I began practice 25 years ago I found no satisfactory book for making records of eye cases and I devised one so that I could have a record of all cases, but I have made but few compilations therefrom, which is contrary to the resolve I made early in my practice. When I mention, however, that I have founded an eye and ear institution and begged and handled several hundred thousand dollars to build it and carry it on I think you will excuse me. I find, however, that in the records of the Maine Eye and Ear Infirmary I have operated some 500 times for cataract and in my private practice I think I have done as many more, so my experience is based on about a thousand operations for cataract.

In opening the discussion on this paper I am reminded that in the American Ophthalmological Society, when we have listened to a paper on cataract, it is passed by without discussion because members say there is so much to be said and no one is willing to undertake to start it. I shall confine my remarks to my personal experience.

In the preparation of a case for cataract operation I like to get acquainted with the patient and have him under observation at least a week before I operate, see that the bowels are all right and have him take certain baths and remedies that may be indicated. I have the face washed and all parts adjoining the face cleansed in bichlorid, and the conjunctival cul-de-sac washed out with a 1 to 5000 solution of bichlorid for a week or more before operation. I also look after the lachrymal sac, syringe it out with antiseptic solutions if need be, and examine the nasal cavity and mouth to remove all possible foci of infection. I like to use some weak mydriatic in order to examine the lens, to estimate its size and determine as well as I can how large a corneal section I shall make. I admit this is very difficult to determine in some cases, as we find some larger lenses than we anticipate. In my early career I operated with ether and did the modified Graefe operation with an iridectomy. For the last ten years or more, however, I have done the simple operation without iridectomy as a rule.

making the puncture and counter-puncture just at the corneal margin, and I like to make a small conjunctival flap, for I think I am less likely to get prolapse of the iris. In changing over from operating with iridectomy to operating without it I found that I had to learn a new technique, and one of the most essential points to observe is, after making the cystotomy, to make pressure on the lower border of the lens to tip the upper part forward and prevent its sliding up under the iris. In my early career I always practiced on the mask with pig's eyes before attempting an operation, and I think that it is very important for the young operator. I am sure I performed more than a thousand operations on pigs' eyes before I did many cataract operations on the human eye. The young man has plenty of time to do it and it gives him confidence in his hand and forearm, and when he has to operate he will do the operation very much better. I was very much pleased some time ago when I saw a book written on that subject, though I can not recall at this moment the name of the writer.

I used to wash the anterior chamber out when there was any amount of cortex left. I should not hesitate to do that now, although I think there is apt to be some irritation from it, but I do not find the occasion for it as I used to. I think the normal-salt solution sterilized is better than the pure water for this purpose. In dressing the eye I have for a long time been putting cotton over the eye and using isinglass plaster to hold it in place. Fifteen years or so ago I used a shield made of wire and also of pasteboard, but I abandoned them, for in my practice I thought I got more prolapses of the iris when I used them than when I did not. They are apt to become irritating to the patients and they make efforts to move about, causing spasms of the muscles, and, by the way, I think prolapse of the iris is more frequently caused by muscular contractions and spasms than by external violence.

When Dr. Ring brought out his eye shields I tried them, but I again abandoned them for the same reason I had before.

DR. R. L. RANDOLPH, Baltimore—I hope this paper will elicit some discussion as to the technique to be pursued in these cases. I have long maintained that the eye is endowed with natural powers that make it unnecessary to use bichlorid douches before the operation. While I am not prepared to say that its use in Dr. Rogers' case had anything to do with the iritis, I do not think he would have had any more iritis if he had abandoned the use of the bichlorid. I think the eye, more than any other part of the body, is endowed with antibacterial properties, and I make it a rule to use no bichlorid solution whatever. In the first 100 cases I reported I did use it; in the second 100 cases reported a few years ago, I used nothing, but simply sterilized my instruments and used sterile cocain. I would like to ask Dr. Rogers if he sterilized his cocain in these cases.

I am surprised to note the number of cases where he was successful in maturing the cataract. I have tried in ten cases, but succeeded only in one. Lately, I have abandoned cocain also in these cases and never use anything but holocain.

DR. W. B. MARPLE, New York—I should think it would be interesting in connection with Dr. Randolph's remarks to know from the different gentlemen here whether or not they irrigate the eye before operation. Since Dr. Randolph's paper of a few years ago, I have used nothing but the sterile salt solution, and I would like to know if there are many who use no irrigation at all. Irrigation with some sterile non-irritating solution seems to me to be in many respects of decided advantage.

DR. ALBERT E. BULSON, JR., Fort Wayne—Aside from the general interest which a paper on cataract operations excites, this paper becomes of interest because the essayist recounts his failures and successes, with reasons therefor.

The point which I wish to make in discussing the paper is that, with the average operator, a preliminary iridectomy is usually unwarranted. It has always appeared to me to be an unnecessary risk to open the eye twice for the purpose of removing an opaque lens. The average ophthalmologist does not exceed fifteen or twenty cataract operations a year, and as every one of these cases must of necessity carry its weight of praise and blame, and as it is practical results which all patients desire, it behooves the operator to secure the best possible results as a minimum risk. In spite of the most exacting efforts to have an aseptic operation, occasions will arise in which infection alters what otherwise might prove to be an ideal result, and opening the anterior chamber twice paves the way for such a complication. I have never felt that the results with preliminary iridectomy averaged any better than the results with iridectomy at the time of extraction, and the patient certainly objects to two operations when one may be fairly stated to do as well.

I believe the combined operation for the average ophthalmologist to be, not only the easiest, but the best for securing practical results. It is usually attended with fewer complications, and but few patients will complain of the cosmetic effect, the main desire being to get vision, and it is this which brings out their praise.

DR. J. L. THOMPSON, Indianapolis—These reports appeal to most of us because there are very few of us now that see as many cases as Knapp, or the Baltimore physicians, and very, very few of us get more than twenty-five cataract operations a year. I feel that one of my failures used to be due to the manner in which I used the speculum. That seems to bother a good many of the beginners. I used to open it very widely, but now I open it just as little as possible, to give enough room to work on the eye. Of course, I began when there were no antiseptics in use. In regard to cleaning the wound, I notice, if you go to Knapp's clinic, for instance, the great pains he takes to clean the wound and to put the iris back just as carefully as possible, but the beginner feels that he had better leave well enough alone, and he does not want to work over the eye too much.

I do not recall one case I ever lost where I made a preliminary iridectomy. We have so many cases where just a plain extraction of the cataract is out of the question on account of the small cornea; the deeply sunken eye, the shallow anterior chamber, etc. I would like to advise the beginner to learn to use both hands and to do an iridectomy.

DR. LUCIEN HOWE, Buffalo—I want to call attention to one point in regard to the difficulties with an assistant, and the necessity of having some one who rotates the eye or fixes it without pressing on it. Some years ago I presented a small pair of autofixation forceps, and I want again to call your attention to the advantage of not having another brain to depend on, but in having one's own fingers only involved in the operation. The little forceps on the speculum fixes the eye perfectly, and acts as our third hand.

YELLOW FEVER; ITS NATURE AND CAUSE.*

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From the earliest history of yellow fever in our country there have been evidences of its having been imported from some foreign place, usually the countries to the southward within the tropics. This importation has usually taken place during the prevalence of warm weather in the spring, summer or fall months, and could be traced to one of the intertropic endemic centers. During cold weather, the disease would disappear either entirely or to a great extent.

Its continued presence, however, from year to year in some of our southern cities, and its recrudescence with the advent of the warm weather of the spring, following its epidemic presence during the summer, induced numbers of prominent observers to believe that this disease was indigenous to our southern latitudes, and, like malarial infections, depended on unsanitary conditions.

The cessation of the fever following the institution of an adequate system of maritime quarantine protection for our southern seacoast cities, against such importa-

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tion, was the convincing argument that is was essentially exotic. The continuance of an epidemic invasion of these latitudes depended invariably upon the continuance of heat and moisture, so much so, that close, humid and sultry weather became known as "yellow fever weather," for under such conditions the disease propagated more rapidly and became more fatal; while on the other hand, dry, temperate weather has been known to induce a cessation of the disease before the advent of colder weather. The appearance of the cold season has invariably been followed by a marked diminution in the number of cases at any center, endemic or epidemic; and those instances recorded of this disease, during cold weather, in temperate latitudes must have depended upon some special feature of exposure. As a matter of fact, they have been recorded in cities of the Northern States where the first hint of winter is sufficient to determine the almost perfect closing of houses against cold, and therefore, the enclosure of the specific organism in an atmosphere sufficiently warm to allow the propagation of the disease from person to person. In southern latitudes this barricade against frost is not nearly so complete, and it is not unusual for such communities to be caught unprepared for winter; within the infected homes, therefore, the germ is as much refrigerated as it would be out-of-doors. Isolated recrudescences, however, indicate that through special agencies the organism may pass safely through the season of frost, and produce the disease, under conditions of increased temperature. These deviations from the normal history of yellow fever are so infrequent that it is evident they depend upon such special influences.

Within the tropics the disease is endemic under similar atmospheric conditions to those which determine its epidemicity, i. e., heat, moisture and unsanitary environment, the presence of témoines contributing to its endemic duration. In such centers the advent of cold weather, scarcely ever so frosty as 40 F., is followed by a notable cessation of yellow fever; and it is a clinical fact that during such seasons of cessation, as in the city of Havana, the cases which do occur are well marked and frequently have a fatal termination.

Such is the natural history of this scourge of the tropics, bête-noire of the southern states contiguous to them; it is that of an acute infectious malady, dependent upon an etiologic entity which exhibits a marked susceptibility to changes of temperature, this susceptibility finally causing the disappearance of the disease.

Yellow fever has also presented a uniform complex of symptoms which has served to distinguish it clinically from the other infections. Its onset may be either precipitate, or heralded by a series of prodromes such as are common to these infections. The course and termination of the disease do not seem to be in direct sequence to the onset; the precipitate cases becoming benign, and the mild onset frequently followed by the gravest symptoms.

In a characteristic case the temperature rises to its maximum within the first twenty-four to thirty-six hours; the pulse rising at first in proportion to the temperature. This, however, does not continue and there ensues a remarkable reduction of the pulse-rate, at the same time that the temperature continues to rise, or remains at its acme.

This is the first symptom in yellow fever that is of intrinsic value in the diagnosis of the disease. It was clinically recognized by early observers, but it was not until the introduction of the clinical thermometer enabled the elder Faget to accurately chart the temperature range, that this remarkable phenomenon was fully recognized to be of diagnostic importance. Faget established *avec l'aide de la montre et du thermomètre* the law of the non-correlation of the pulse and temperature, and it has been recognized, by all conversant with the disease, as of inestimable value in its diagnosis.

The prodromal symptoms of the infection, such as cephalalgia, rachialgia, pain in the eyeballs, the slight yellowing of the conjunctiva and scleræ, can be of only slight differential value. However, with the undoubted presence on the clinical chart of the phenomenon of Faget, the case assumes a more serious aspect, and the diagnosis will probably be confirmed by the later symptoms.

The next clinical feature of importance is also connected with the temperature chart. Upon the second or third day of the disease, it is usual for the temperature to decline, and there is a more or less marked remission, at times an intermission, of fever. There is no fixed time for the appearance of this fall in the temperature, but it is so confidently anticipated by clinicians of epidemic and endemic centers, that its non-appearance has often caused them to diagnose the malady as an infection of an allied nature.

The fall in temperature may be of one or two degrees, or it may reach the normal, or pass below it. Under all circumstances it is accompanied by a notable alleviation of the distressing symptoms, the patient entering a period of comparative calm, which may last from one to many hours. Indeed, it is possible that convalescence may be established at this stage, but in the characteristic type under consideration it is soon followed by an exacerbation of the temperature, which may rise even higher than during the "first paroxysm," and an exaggeration of other symptoms. The patient enters now upon the "third stage" of the disease, or into the "second paroxysm" of the fever, the paroxysms being separated by the "period of calm," or "second stage" of the disease.

This phenomenon presenting the two accessions of temperature, with a decline, the period of calm, separating them, has been recognized by southern clinicians as the most characteristic of all the symptoms of yellow fever; and it may be recognized, as outlined here, in all cases lasting from three to eight days. These variations of the temperature forming the three periods, or stages, of the fever have heretofore been regarded as inexplicable from a clinical standpoint, although many clinicians have advanced theories which did not satisfactorily account for them.

Among the clinical phenomena should be mentioned the "black vomit" encountered in this disease with such constancy as to name the disease in some countries *"vomito negro;"* also that phenomenon encountered post-mortem, the extreme steatosis of the liver cells, which transforms the organ into a friable, yellow tissue incapable of performing its functions, and from which arises the icterus, or yellow skin, giving the well-known name to the disease. Other organs are involved but in them there is no special change characteristic of the malady.

Cases of yellow fever have been divided into three classes or varieties, the ephemeral, the grave, and the *siderante* or fulminantly fatal cases. The first class comprises cases exhibiting a slight toxic attack, ending in recovery in from two to three days or less. They are with difficulty diagnosed because of their resemblance to other infections of less gravity, and have been likened to a "slight cold." To this class belong the acclimatization fevers of the tropics. The second class embraces all grave cases of the type already described as presenting

the characteristic symptoms. The third class are those rapidly fatal cases in which death ensues before the appearance of many of the characteristic symptoms, but in which acute fatty degeneration of the liver is always found, together with a most pronounced paralysis of the vasomotor constrictors, as evidenced in the marked visceral congestions and the intravisceral hemorrhages. These are the clinical and pathologic peculiarities which, with the natural peculiarity of the disease mentioned above, must be correlated with the phenomenal powers of the organisms said to be the cause of the disease.

THE CAUSE OF THE DISEASE.

Since the bacterial origin of yellow fever became a probability through the discoveries of Koch, Fränkel, Löffler, Eberth and others in the domain of the acute infections, there have been numerous organisms announced as its cause. In 1885 Domingo Freire, of Brazil, and Carmona y Valle, of Mexico, announced the discovery of the infecting organism, and in 1887 two announcements were made from Havana, by Finlay and Gibier, who isolated totally dissimilar organisms from the cadavers of yellow-fever patients.

The proofs advanced in support of these claims were not convincing, and during 1888-9 the question was thoroughly investigated by Dr. G. M. Sternberg, of the army medical corps, who was detailed to this duty through the Surgeon-General M. H. S. His report[1] was made in 1890, in which he stated, after careful and exhaustive researeh into the merits of these claims, that "among the micro-organisms encountered there is not one which, by its constant presence and special pathogenic power, can be shown to be the specific cause of the disease," and further, that with the most approved facilities at his command he had not been able to discover an organism in the blood of those ill from yellow fever, and expressed the decided opinion that the infectious germ, if a bacterium, would require for its detection other aids than those which he had employed. Incidentally, he suggested the possible etiologic value of his bacillus "X," isolated at Havana, since it had proved pathogenic to animals, with the production of the morbid anatomy found in men dead from the disease.

These observations of Sternberg made a profound impression on the professional mind of this country, and, without doubt, acted as a deterrent to further investigation. Indeed, I recall the personally stated opinion of one of the most distinguished bacteriologists of the day, that the disease, in view of that report, was scarcely one of bacterial origin, but that the cause might be a plasmodium, and he suggested freezing the bodies of victims of this disease, immediately after death, in order that section might disclose the pathologic conditions unchanged, and possibly also the infecting cause. When, in 1897, Giuseppe Sanarelli published the account of his work in yellow fever[2], there at once arose a murmur of surprise and incredulity, so fully had our minds been imbued with the value of the statements made by Sternberg in 1890. Dr. Sternberg himself at once assumed the defensive, and antagonized the statements of Sanarelli as casting reflections upon his own work, and he insisted upon the identity of his bacillus "X" and the bacillus icteroides, assumed by Sanarelli to the cause of yellow fever.

This was the state of affairs when the epidemic outbreak of the disease in Mississippi and Louisiana in the fall of '97 enabled the Surgeon-General of the Marine-Hospital Service to detail officers from his own corps to investigate its etiology. For this purpose he detailed P. A. Surgeon H. D. Geddings and myself to the isolation hospital of the city of New Orleans, and later, at the direction of the President, to Havana, Cuba.

The results of the work of that commission were embodied in a report[3] to the President through our Surgeon-General, dated July, 1899. The conclusions arrived at by the commission, as therein stated, are as follows:

1. That the micro-organism discovered by Prof. Giuseppe Sanarelli, of the University of Bologna, Italy, and by him named "bacillus icteroides," is the cause of yellow fever.

2. That yellow fever is naturally infectious to certain animals, the degree varying with the species; that in some of the rodents local infection is very quickly followed by blood infection, and that, while in dogs and rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man.

3. That infection takes place by way of the respiratory tract, the primary colonization in this tract giving rise to the earlier manifestations of the disease.

4. That in many cases of the disease, probably a majority, the primary infection or colonization in the lungs is followed by a "secondary infection," or a secondary colonization of this organism in the blood of the patient. This secondary infection may be complicated by the coinstantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life.

5. There is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicemia, inasmuch as cases do occur in which the bacillus icteroides can not be found in the blood, or organs in which it might be deposited therefrom.

6. That there exists no causal relationship between the bacillus "X" of Sternberg and this highly infectious disease; and that this bacillus, "X," is frequently found in the intestinal content of normal animals and of man, as well as in the urine and the bronchial secretion.

7. That, so far as your commission is aware, the bacillus icteroides has never been found in any body other than of one infected with yellow fever; and that whatever may be the cultural similarities between this and other micro-organisms, it is characterized by a specificity which is distinctive.

8. That the bacillus icteroides is very susceptible to the influences injurious to bacterial life, and that its ready control by the processes of disinfection, chemical and mechanical, is assured.

9. That the bacillus icteroides produces *in vitro* as well as *in vitam*, a toxin of the most marked potency; and that, from our present knowledge, there exists a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli.

Does the bacillus icteroides, therefore, fulfil the demands of modern bacteriology; and does it offer an explanation of the clinical and natural history of yellow fever?

In the report of 1899 the Commission affirms the isolation of this bacillus from the blood of 13 of 14 patients in whom the disease was clearly recognized, that is to say, in whom the typical phenomena of the disease were present, or in 92.85 per cent.; in those dead from the disease it was isolated from the blood and organs in 85..7 per cent. Sanarelli had predicated his discovery of the cause of the fever upon the presence of the bacillus icteroides in about 55 per cent. of his cases living and dead[4].

Our cultures thus isolated were pure, and in no instance was a contaminated culture allowed to enter our computations. These cultures were each retained and are still in evidence. Introduced into animals susceptible to them, they each produced illness and death, the morbid anatomy being similar to that of man dead of the disease.

The organism is always found in these artificial infections, as it is in the septicemic cases in man, distributed by the blood-current in the organs.

Moreover, the chemical products of this organism introduced into animals produce the symptoms of the dis-

ease, and furnish the pathologic changes peculiar to it. Sanarelli made use of the soluble toxins of the germ in an experiment carried out upon some nine imbeciles, otherwise healthy, who were under the care of a civic institution. Of these helpless ones nearly all reacted to the intravenous injections of the toxins; in a few there were evident signs of profound toxemia with symptoms of the disease; and in at least one case death must have ensued, the autopsic findings being those of yellow fever.

It would appear therefore that the bacillus icteroides would require no further proof of its pathogenicity; that its etiologic rôle is patent, since it has fulfilled the demands of bacteriology as laid down by Robert Koch.

After the Report of 1899, and just prior to its issue, there were a number of voices raised against the acceptance of the bacillus icteroides as the cause of yellow fever, mainly because of its close cultural relations to many other organisms known to be infectious in their nature[5]; and because of its behavior in the presence of changes of temperature[6].

Taking the experimental work of Sanarelli under consideration, during my work in Havana, I soon became convinced that he had fallen short of proving his position in regard to the etiology of the disease, and that the contention of Sternberg, in favor of the specific influence of bacillus "X," was a very valid one, since bacillus "X" was frequently isolated from the yellow-fever cadavers at our disposition, and at times from the living blood, and since this bacillus, and its toxin, acted upon animals in artificial infection in a manner strikingly like that of the bacillus icteroides. But Sternberg seemed to have lost faith in his organism, and withdrew it from further consideration before I had fully determined, by experimentation, its lack of specificity.

All that Sanarelli had proved in his mémoirs was the presence, in one-half of his cases, of an organism not before described in yellow fever; that it possessed powers pathogenic to animals by artificial infection; and that its toxins had proved toxic to man and animals, the lesions produced resembling those of yellow fever.

These facts were applicable to the peculiarly motile, highly pathogenic organism of the colon group, found freely by us in cases of the disease, and which corresponded perfectly to Sternberg's bac. "X." I was therefore compelled to attempt a differentiation of these bacilli. They were both pathogenic in animals; were they infective to them also? Introduced into their tissues, or into their blood, the reactions were very similar; they produced acute sepsis, with a profound influence upon the vasomotor constrictors, the paresis of which was, in all cases, followed by intense congestion of the organs, especially the cavernous ones, in which lack of support tended to free hemorrhages, notably the stomach—"black vomit"—and the intestines—"black stools." The parenchyma of the organs suffered from fatty degenerations, and necrosis. The onset of symptoms and death seemed to be in direct ratio to the amount of culture injected; there could scarcely be determined any cycle of disease in the case of either organism.

The differentiation of the organisms could only be accomplished by a series of experiments with susceptible animals naturally exposed to their infective influence, and to do this I exposed white mice, susceptible to most infections, to bacillus icteroides, and bacillus "X," in pure culture, as well as to a common colon organism, and that of Havelberg, who had announced its discovery some time before. The same conditions were maintained for all the mice thus exposed, the organism being placed in their grain. In a given time—8 to 10 days—all the mice, 19 of them, exposed to the bacillus icteroides became infected, and all died except one, which recovered after a severe illness. Of those exposed to bacillus "X" not one sickened or died. Those exposed to bacillus coli communis, and to the bacillus of Havelberg remained perfectly well.

From those infected by bacillus icteroides, it was determined that its incubation took place within five days, the usual incubative period of yellow fever; and that its cycle was that of the septic type of the disease in man, or of 5 to 8 days' continuation. The autopsies in these cases were typical of those in man. Of other animals, guinea-pigs resisted the natural infection, which was a surprise in view of the active reaction of this rodent to artificial infection. Rabbits reacted readily to natural infection, and in case of death gave characteristic autopsies. They developed the fact, however, that in them the blood does not become invaded; that is, that the colony of bacillus icteroides remains entirely local to the lung tissue, and sepsis does not take place. Dogs react readily also to the inhalation of the bacillus icteroides, and are invincible to the germ placed in their food, or in the small intestine beyond the acid stomach. In them also there is no secondary invasion of the blood, absolutely no sepsis, the necropsies presenting typical pathological appearances. Monkeys are susceptible to the inhalations of bacillus icteroides, and present a picture of suffering from symptoms of yellow fever very similar to that of man. In this animal the secondary invasion of the blood on the third day of the disease was demonstrated by careful planting of minute quantities of blood daily from the commencement of the symptoms. There were no deaths in monkeys; all of those infected recovered.

Altogether 44 animals were subjected to the infective influence of the bacillus icteroides, exhibited naturally. Of these 34 reacted, showing acute symptoms of disease, and 23 died, a mortality of 67.5 per cent. Recoveries took place among dogs, white mice, rabbits and monkeys, which demonstrates that the domestic animals may enter as a factor in an epidemic of the disease.

During my experimental work we were honored by a visit, at our laboratory in Havana, from Dr. Sternberg, who said to me, while passing through our animal room, that the strongest argument against the acceptance of the specificity of any one of the organisms advanced as the cause of yellow fever, was the fact that no one of them, during experiments in laboratory, had ever communicated this disease by natural infection to the animals of those laboratories; and he asserted that, whenever such infections should occur, the lesions being characteristic, and the organism recovered, he would accept that organism thus demonstrated as the cause of yellow fever, and such demonstration as the proof of its specificity.

In that same room, shortly afterward, I had nine cases of this disease occur among the animals, naturally caught, from the introduction into the atmosphere of the adjoining room, of the bacillus icteroides. Eight of these animals died; one recovered; from the necropsies I recovered the bacillus icteroides in pure culture from 50 per cent., almost as large a number of cases, and as large a percentage of isolations, as those used by Sanarelli in forming his assumption as to the value of bacillus icteroides in the etiology of the disease. These spontaneous infections occurred in dogs, mice, guinea-pigs and rabbits. The first infection, that of rabbit "S. S," was noticed on April 16, 1899, the only known exposure being that of the insufflation of dog "A," in

the adjoining room, on April 7, with the bacillus icteroides in lycopodium powder. Granting 3 to 5 days as the incubating period of this bacillus, we have the disease lasting in this rabbit from 6 to 8 days, and ending in death on the seventeenth. In all these animals the disease was accompanied in the pregnant female by miscarriage, and in the normal female by flooding. Necropsies gave the characteristic morbid anatomy of yellow fever.

I therefore maintain that Sternberg, who has assumed the rôle of censor in this disease, should now be thoroughly convinced, since my work has been crowned with the results which he demanded, and since our commission has proved what Sanarelli did not, that the bacillus icteroides is constantly present in yellow fever, and is the cause of the disease. Sanarelli, in a recent issue of the *Medical News*,[7] has acknowledged the work of the American Commission, as a confirmation of his own, and he uses its results in formulating several conclusions which were not possible with the information derived from his experience alone.

But the work of that commission was far more important than this. It constitutes the only proof of the specificity of the bacillus icteroides, and without such demonstration the bacillus icteroides would have no better claim to our consideration as the cause of yellow fever than the organisms of Sternberg, Havelberg, or the commoner colons, that of an artificially pathogenic microbe.

The close cultural and biologic relationship which exists between bacillus icteroides and some others, infectious to animals, but not to man, as the micro-organism of American hog-cholera, the hog-cholera of Bavaria, that of the peripneumonia of calves, and that form of colon frequently isolated from the summer diarrhea of children, and also known in acute mucoenteritis epidemic among young pigs, has been noted for some years, and recently resulted in the assertion of one observer that the bacillus icteroides is of the hog-cholera group, and therefore of secondary importance if found in yellow fever in the septic stage. According to this observation the bacillus icteroides, when fed to our domestic pigs, gives rise to disease, and autopsy discloses the characteristic lesions of hog-cholera in their intestines.

This has not been my experience with the most virulent bacillus icteroides, for with a most perfect environment against possible contamination with the bacillus choleræ suis, I was unable to infect the hog in Havana with the icteroides, and later, under conditions equally free from suspicion of contamination with cholera suis, Geddings, upon a group of pigs and controls had a similar experience. Bacillus icteroides in pure culture, and in an environment free from bacillus choleræ suis, does not produce hog-cholera.

When the observations noted above were called to my attention they interested me greatly, not that the conclusion arrived at by the observer was thought to be correct, but the question at once arose in my mind of the possible mutations of these specific organisms with changing environment. Could it be possible for bacillus icteroides to give rise to yellow fever in man and to cholera in the hog? Could environment thus influence results? In so far these observations were of immense interest, but my experience and those of Geddings seemed to properly dispose of the question, and to determine that, however closely allied these organisms might be, the specificity of each one seemed an inherent quality, to be developed under certain environment, and that this quality is immutable. The same observer has questioned the power of bacillus icteroides, as known in the laboratories of the milder latitudes, to produce constant toxic results, advancing its failure to produce "fatty degeneration" of the liver, when injected under such conditions, as an argument against its specificity. As a matter of fact, the bacillus icteroides, like many other infective pathogens, exhibits at times a most marked quality of septicity, and in proportion as the organism is septic it loses its toxic quality, and consequently the manifestations of toxicity, the fatty liver and renal epithelium, become merged into a condition characteristic of sepsis; that is to say, these organs present then more the appearance of the changes of typhoid fever, with necroses of their parenchyma rather than fatty degeneration. The more acute the intoxication in this disease, typified in the siderant cases, the more typical the fatty degenerations, and the reverse is equally true. We therefore can not expect the same results from this bacillus under conditions which we know will cause its attenuation, as those which we encounter constantly under conditions most favorable to the development of its peculiar powers. An instance in man—cited in the report of the commission,[8] that of Private Patrick Smith, 8th Infantry U. S. Army, who died of yellow fever at Havana, after an illness of nine days—presented a condition of sepsis or blood invasion by the bacillus icteroides, the most marked that I have ever known. His necropsy revealed a chronic malarial cachexia, upon which a pronounced anemia had depended, and modified changes in the stomach, the intestine and the liver; these modified changes, partaking of the nature of typhoid sepsis, were accepted by some of the attending physicians as diagnostic of typhoid fever, but evidently there was lacking an adequate conception of the quality of septicity in the bacillus icteroides, from which had arisen these modified changes.

There has been made one other, and apparently the most formidable, argument against the bacillus icteroides as the cause of yellow fever. Novy has shown that the bacillus was not killed by exposure to temperatures below the zero mark, but that after such exposures it gave rise to a septic condition when injected into animals. He therefore concluded that the bacillus could have no etiologic relation with this disease, since epidemics of yellow fever have always subsided and disappeared upon the advent of a temperature of the frost-line, or about 40 Fahrenheit.

Having had no experience with this bacillus under other than tropic and semitropic conditions of temperature, I could make no comment at the time of his publication, but at this time I can say that his position was only apparently well taken, for the bacillus icteroides, although not killed by exposure to extreme cold, is most profoundly influenced by temperatures at and below 40 Fahrenheit. Having had the opportunity during the past fall and winter months to observe these conditions, I tested carefully the facts of the case. While specially engaged at the Institut Pasteur, in Paris, in the matter of the possible production of a serum, curative and preventive, in this disease, I made a series of vaccinations in animals with the "sérum anticoli," of M. Lesage, and with the "serum antipneumoniæ in calves," of M. Fehrenbach, against virulent cultures of the bacillus icteroides which I had taken with me. Details of these observations are in the addendum.

During the months of September and October these serums seemed to afford but little if any protection to the animals used, vaccinées and controls dying nearly at the same time. With the advent of the colder weather,

however, it was noted that the serums were more potent and now protected the animals, but at the same time it was noticed that the controls, inoculated subcutaneously, did not succumb, the points of inoculation presenting nodules of accumulated leucocytes, something unusual in my experience with the germ in the tropics. At this time I determined to test the influence of cold and heat upon the infecting quality of the germ, since cold had so materially attenuated its pathogenicity; for this purpose I exposed white mice to its infective influence at different degrees of temperature. From the same group of mice, six were selected and two were placed in each of three cages. In each cage there was placed grain mixed with an equal quantity of the same culture of bacillus icteroides, originally obtained from the blood of Patrick Smith, which had always proved extremely virulent. One cage was then placed in an incubator temperature of 25 C., or 77 F. One other was placed in laboratory room temperature of 18 C., or about 65 F., and the remaining cage in the open air in an outbuilding, one side of which was entirely open. The temperature in Paris during this outdoor exposure averaged 5 C., or about 40 F., and at times was below zero, ice and snow being present, the record of temperature having been taken from the daily Paris edition of the New York *Herald*.

In the cage at 77 F., one mouse become infected and died on the ninth day, about the usual period in these animals; and one died on the thirteenth day, much beyond the usual period of eight to ten days. In the cage placed at 65 F., one mouse died on the fourteenth day, and the other on the eighteenth day after exposure, or in twice the usual period of time. Two other mice, placed in a fourth cage and exposed to this temperature of 65 F., died on the nineteenth day after their exposure. In the cage placed in out-of-door temperature, the mice at no time, under daily examinations, gave the slightest evidence of disease, and when last examined, two months after their exposure, were perfectly well. To summarize, mice are extremely sensitive to the infection, developing acute septicemia, with death in all cases of my own except one. The mice exposed at summer temperature, 77 F., died in very nearly the time noted in the tropics. Those at 65 F. sickened and died, but at periods of twice the usual length in these animals. The mice exposed at and below 40 F., the "frost-line," with us, did not become infected and remained well. Details are given below. Beside this attenuation of the germ, as shown when inoculated into animals, I found that the attenuated germ does not produce a potent toxin, even when grown at 37 C.; for mice and pigs resist large quantities of the soluble toxin produced when injected into their tissues.

The bacillus icteroides was thus shown to attenuate rapidly in the presence of cold, losing its toxic, septic and specific qualities.

During the prevalence of extreme cold in Washington last winter, my confrère, Geddings, remarked that animals inoculated subcutaneously, and intravenously, with the bacillus icteroides, in order to revive the organism by its passage through them, failed to succumb to it, and as it was desirable to employ the most virulent germ in his work, he was nonplussed. At this time, in a note from Paris, I stated my observation in regard to the influence of cold upon the bacillus icteroides, when, acting upon this information, he placed the inoculated animals at incubator temperatures, with the result that they succumbed and furnished the virulent organism desired. Nothing can be clearer than this demonstration, and it is in consonance with the many different results obtained by observers in different latitudes with this bacillus.

Reverting now to the natural history of yellow fever, I can most positively assert that the most striking of all of its natural phenomena, its endemic and epidemic cessation with the advent of cold, is thus readily explained by my discovery of this peculiar biological phenomenon while investigating the life history of the bacillus icteroides—the loss of its toxic, septic and specific qualities in the presence of a temperature below 5 C., or 40 F.

As to the clinical phenomenon of the "double paroxysm," separated by a more or less well marked interval, or "period of calm," I believe that this can be explained by the consideration of the mode of infection in yellow fever. It has long been conceded that the disease is air-borne and not water-borne; and because of the marked lesions of the liver and intestinal canal, the primary colony of the causative organism has been thought to be in the intestinal tract. Sanarelli but dimly realized the truth, and so did not profit by it. He assumed that the bacillus icteroides, entering the body, perhaps by way of the respiratory tract, in some occult manner reached the spleen, there to lay *perdu* until finally, late in the disease, it invaded the blood, producing with other organisms a "secondary sepsis."[9]

This is not true; my observations in the natural infections in animals limit the colony primarily to the respiratory tract. In dogs and rabbits it is totally limited to this tract, there being in them no invasion of the blood from the primary colony. In man and the monkey this secondary invasion takes place some time after the appearance of the symptoms of intoxication from the primary colony.

My observations, therefore, have convinced me that the bacillus icteroides is always first colonized at some portion of the respiratory tract; that the intoxication arising therefrom produces the early symptoms of the disease, the "first paroxysm" of the fever; that the injury sustained locally sooner or later permits the passage of the germ into the circulation, with those evidences of sepsis termed the "secondary paroxysm," which has been attributed by the earlier authors to an invasion, from the changed intestinal canal, of bacillus coli communis and other organisms; and that this secondary invasion is due to the development of an inherent quality in the bacillus icteroides, that of septicity.

The interval of calm is due to the profound impression of the commencement of this second intoxication, from the bacillus in the blood-stream, upon the nerve-centers. This depression, amounting to shock, sometimes ends in death, but if the patient rallies the temperature again rises and sepsis is shown by its chart. It is an uncertain quantity, this interval of calm between the two toxic periods, the first intoxication arising from the primary colony, the second from the lung colony plus the influence of the colony invading the blood; the first a pure toxemia, the second a septicemia.

Should death take place during this primary toxemia the body will be found to be sterile, Sanarelli agreeing with us that the *foudroyante* cases are sterile, excepting the local colony in the lungs, a fact which he did not realize.[10] This explanation correlates the three periods of the disease, the first intoxication lasting from 2 to 4 days, when, if septicity develops, the blood colony becomes a factor in the secondary, septic, or "third period," lasting from 3 to 5 days longer, the "period of calm" being of several hours' duration, or so slight as to barely merit the name. Thus, too, will be explained the

three great varieties of yellow fever. Why should there be three varieties of this disease? Because this bacillus exhibits *par excellence* the dual qualities of toxicity and septicity; if the toxic property is alone developed after an infection, cases of the first and third variety are produced. That is to say, an intense toxemia, resulting in death, is the *siderante* or third type, while the multitude of benign or ephemeral cases, in which only a slight toxic result is noticed, constitutes the first variety. Between these are possibly the majority of cases of diagnosed yellow fever of the second variety, those giving the marked clinical peculiarities mentioned above, and in all there is the phenomenon of the "second paroxysm," "septic invasion," or "third stage" of this peculiar disease.

In regard to the want of correlation between the pulse and temperature I can quote Dr. Bernard E. Baker,[11] of Charleston, as noting this phenomenon as due to the soluble toxins of the bacillus icteroides.

In regard to the role which domestic animals and vermin encountered in domiciles may play in the retention of yellow fever in their systems after their infection on shipboard, or during the prevalence of the disease on land, and its convection by this means to new areas, which may then become infected, I can but introduce the ready susceptibility of mice, dogs and rats to the infecting influence of the bacillus icteroides, and the marked reactions obtained by Sanarelli in his artificial infections, or inoculations, in the horse, in cattle, and in the ass. Domestic animals are therefore susceptible, and if infected, many of them may recover. In all of these the disease, as in man, is accompanied by intravisceral hemorrhages, and, except in the dog, in which there is no blood invasion, the dejecta, as well as any bronchial secretion, may contain the germ, from which the disease may recur in the infection of a resident of the domicile. This mode of entrance from shipboard and from house to house bears the aspect of improbability, but the well-known instances of this fact in the history of plague demand for it respectful consideration in connection with yellow fever. I am reminded also of the fact that during my stay in New Orleans in '97 and '98, I heard well-founded rumors of the presence of some disease at that time frequent among cattle and horses, which resembled epizootic, and which was attributed to yellow fever. I have not had an opportunity of subjecting the greater animals, horses and cattle, to the bacillus icteroides, and can not state the facts as to their natural reaction to the germ.

In at least one variety of animal extremely reactive to artificial infection, guinea-pigs, I have not succeeded in inducing a natural infection, although there was one case of natural infection among our animals, and this may apply to horses and cattle.

The danger from infection through animals, especially the rodents, has been illustrated on many occasions of yellow-fever outbreak at points ashore, and adjacent to the nearest landing place of such rodents swimming from an infected ship. Moreover, the recrudescences of the fever, even after quite cold winters, could be attributed to an attenuated form of the disease lasting among these animals during the cold months, and the propagation of the germ in virulent form with the advent of hot weather.

Such convection and propagation of yellow fever deserves the careful consideration of sanitarians in an equal degree as in bubonic plague. I therefore submit to your intelligent body these facts—elicited in my efforts to clear away the obscurities surrounding this American disease, and although it was the fortune of my friend, Dr. Sanarelli, to first see the germ and name it, it has remained for America, the United States, to furnish the indubitable proofs of the value of the Italian discovery, and further to establish the scientific explanation of this disease which more than any other has occupied our attention. Incidentally also to the establshment of the fact that the infecting pathogens vary in their pathogenic results with the varying preponderance of their two great qualities of toxicity and septicity; and that a proper recognition of the latter will serve to elucidate a number of heretofore obscure problems incident to these infections.

ADDENDUM.

Experiments to test the value of certain serums, known to be protective against the specific organism from which they were produced, on the animals subjected to the influence of closely allied organisms.

The serums used were those termed "*anti-coli*," perfected by M. Lesage, of Paris, France, and the "anti-peripneumoniæ" of calves, perfected by M. Fehrenbach in the Institute Pasteur, and the organism the bacillus icteroides obtained from cases of yellow fever in Havana, Cuba.

Oct. 26—A full-grown guinea-pig was vaccinated with 2 c.c. serum *anti-coli*, and in 2 hours was given subcutaneously .25 c.c. of a 24-hour bouillon culture of bacilli icteroides. A control pig of the same size was given, under the skin, .25 c.c. of the same culture at the same time. Oct. 27, both pigs were ill. Oct. 30, the control was found dead. Oct. 31, the vaccinée was found dead. Autopsy gave hemorrhagic conditions and light colored livers, the blood contained the bacillus icteroides in large numbers.

Oct. 28, a large rabbit, 2000 grams, was given .25 c.c. of a bouillon culture of the bacillus icteroides, 72 hours old, in the ear vein, two hours after 4 c.c. of the *serum anti-coli* had been given in the other ear vein. A control of the same size was given .25 c.c. of the same culture by the ear vein. Oct. 30, both control and vaccinée were found dead.

Nov. 2, two large guinea-pigs were vaccinated on four successive days with 1 c.c. of *serum anti-coli*. On the fourth day they were also inoculated with .5 c.c. bouillon culture of the bacillus icteroides, 72 hours old. Two controls of the same weight were given only the .5 c.c. of the culture of bacillus icteroides.

Nov. 6, one vaccinée was dead, no autopsy. Nov. 7, the control was dead, no autopsy. Nov. 8, the other control was dead, no autopsy. Nov. 11, the other vaccinée was dead, the autopsy showing that it had been dead some time. There was an ulceration of the skin at the site of the inoculation 2 cm. long by 1 wide, the peritoneum being laid bare, and covered by a cheesy layer of pus, the margins well defined. The abdominal incision was carried carefully around the ulcer and the peritoneum turned back exposing its inner surface at the site of ulceration. There was no peritonitis, the intestines retaining their brilliance. The outline of the ulcer was seen as a raised border of infiltration on the inner surface, and from this raised border I carefully made cultures on slant agar-agar. The liver was much engorged, with fatty and necrotic areas. The spleen was slightly enlarged. The stomach contained 50 c.c. of fluid containing black flakes of blood; its walls were congested and extravasation had taken place. The kidneys were congested; the heart was full of fluid blood. From all organs cultures were made and in forty-eight hours were sterile; the culture made from the inner surface of the peritoneum gave the bacillus icteroides in pure state.

Conclusion—The *serum anti-coli* appears to be protective to guinea-pigs to some degree. The first of this group to succumb was one of the vaccinées; yet the other vaccinée lived almost twice as long as the témoins, and presented after death a sterile interior. From the fact that these animals are most susceptible to the septic influence of this bacillus, it is clear that the *serum anti-coli* induced a local reaction at the seat of inoculation in this pig, sufficient to limit the organism to the

seat of the injection and to prevent sepsis. The animal died of a toxemia from the localized colony.

Nov. 2 I inoculated a 2000-gram rabbit with 1 c.c. bouillon culture bacillus icteroides, 72 hours old, in the ear vein, and fifteen minutes afterward injected through the opposite vein 18 c.c. of the *serum anti-coli*. It died in 52 hours. At the same time, in another rabbit of the same weight, there was injected the same quantity of the bacillus icteroides, the "normal serum" of the horse being used instead of the serum anti-coli. This rabbit died in 74 hours. A control rabbit was also inoculated with the same quantity of bacillus icteroides alone. The control died in 65 hours. No autopsies were made except in the case of the first that died, the vaccinée with *serum anti-coli*, from which was regained the bacillus in pure culture.

Conclusion—There was no increase of resisting power from the vaccinations with the *serum anti-coli*, since this animal died first, the vaccin exerting a depressing effect at first similar to that known in the use of the "serum antipesteuse" for vaccinations. The horse serum did not exhibit this toxic influence and prolonged the life of the animal somewhat.

A large rabbit was vaccinated intravenously Nov. 11, with 10 c.c. of *serum anti-peripneumoniæ*, obtained from the sheep from subcutaneous injections of the killed cultures of the bacillus which causes this disease in these animals. Nov. 12, the animal was quite sick from this vaccination. Nov. 13, it was better, and 1 c.c. of a 24-hour bouillon culture of the bacillus icteroides was placed in the opposite ear vein. Nov. 15, there was some reaction; the animal was quite sick. Nov. 16, there was some reaction, the animal was still sick. Nov. 18, there was considerable reaction, the animal was quite thin. Nov. 22, it was better and gaining in weight. Nov. 25, there was given 10 drops of a virulent culture of the bacillus icteroides intraperitoneally. Nov. 27, it ate well and was gaining in weight; there was no reaction. Dec. 4, it was given .5 c.c. of a bouillon culture of the bacillus icteroides subcutaneously. Dec. 6, there was no reaction, and the animal seemed well, Dec. 14, the animal was found dead.

Autopsy showed meager body and under the pelt at the seat of the subcutaneous injection there was a solid lymph plaque 2 cm. by 1.5, from the center of which bouillon tubes were planted. The tissues were dry; the peritoneal cavity and its contents were normal; the liver normal in appearance; the spleen was the same; the kidneys were congested; the heart was full of fluid blood; serosæ normal; stomach and intestine normal. Cultures were made from all organs. On the sixteenth the cultures from liver and spleen and from the lymph plaque gave pure growths of the bacillus icteroides.

Conclusion—The vaccin *serum anti-peripneumoniæ* protected this animal against a dose usually fatal in 36 hours, but this protection was evanescent and the animal succumbed finally to a general invasion from the subcutaneous injection of the germ, on December 4.

Nov. 24, a large rabbit was vaccinated with 10 c.c. *serum anti-peripneumoniæ* in the ear vein. During the day it was dull, but not ill. On Nov. 25, it weighed 1960 grams, and the control 1980 grams. They were now injected in the opposite ear vein with 1 c.c. of the bacillus icteroides in bouillon 72 hours old. Nov. 26, the control was dead; Nov. 27, the original was dead; no autopsies were made, as they died of intoxication.

Nov. 21, five fine guinea-pigs were vaccinated with *serum anti-coli*, 1 c.c. being given daily under the skin for 6 days, or in all 6 c.c. were given to each animal. One received 8 c.c. altogether.

Nov. 21, each of these vaccinées received .5 c.c. of a bouillon culture of bacillus icteroides 48 hours old, a control pig receiving the same dose under the skin. Nov. 22, one vaccinée was dead from a perforation of the peritoneum into the abdominal cavity. Nov. 24, several vaccinées showed considerable local swelling at the site of the inoculation, the one to receive the 8 c.c. presenting the largest lump. This was perforated and the serum from it planted. Nov. 27, all the pigs appeared well, there having so far resulted only a local reaction. The planting from the localized swelling had resulted in a good growth of the bacillus icteroides. Dec. 1, these local swellings in vaccinées and controls were diminishing. Again I planted tubes from the serum obtained by puncture from them all. Also prepared cover-slips which showed the bacilli free and engulfed by the leucocytes. The tubes gave in 24 hours pure and active cultures of the bacillus icteroides. On Dec. 6, the experiment was finished; all the animals were well; the swellings having disappeared. Conclusion. There seemed no doubt that the serum had protected these pigs, yet the control had reacted to the inoculation to the same extent as the vaccinées. This was puzzling, but it was finally attributed to the influence of the very cold weather which had prevailed during the experiment, upon the bacillus icteroides.

On Nov. 27 three large guinea-pigs were vaccinated with 1.5 c.c. of the *serum anti-coli* subcutaneously, and this was repeated daily for ten days, each pig receiving 1.5 c.c. of the serum. On Dec. 5 these pigs were inoculated with 1 c.c. bouillon culture of the bac. icteroides, 36 hours old. Two controls were also given the same quantity of the same culture subcutaneously. On Dec. 10 all were apparently well, the vaccinées had developed a distinct tumefaction at the seat of inoculations, tending to suppuration. The controls had large tumefactions, hard, with sharp borders, and no pus. All were eating well and were playful. On Dec. 12, the vaccinées were purulent, the témoins hard, and sharp bordered at the site of the inoculations. At this time having become convinced of the attenuation of the bacillus by the prevalent cold, I placed the cage containing all these pigs in the incubator at 25 C, and removed them to the room temperature the next morning. On the 14th, the cage was again placed in the high temperature incubator. On the 15th, the control was found dead, the others remained permanently well in the room temperature, the vaccinées were purulent and the control was ulcerated at the site of the inoculations; all recovered. From this and the other results it was determined that it was useless to experiment further with these serums in view of the very evident attenuation of the bacillus icteroides by the cold, and all further effort was in the direction of proving the effect of cold and heat on this germ.

On Dec. 12, to test the quality of the soluble toxins of the germ, a bouillon culture in a Fehrnbach flask, 14 days old, was filtered to 5 c.c., and 1 c.c. was given intraperitoneally to a 500-gram pig without appreciable result. The remainder was tested against the highly toxic blood-serum of the eel and without result. It was considered the result of the attenuation of the germ. On Jan. 1, a 25-gram mouse was given .25 c.c. of the freshly filtered culture under the skin, the culture being 6 weeks old. In 15 minutes, there being no reaction, I gave 1 c.c. with no result; in all the mouse received 2 c.c. within the hour and without result.

On Jan. 4, I gave the pig which had received the toxins on Dec. 12, 2 c.c. of a bouillon culture of the bacillus icteroides, intraperitoneally; this culture had been made in a moderately warm temperature, from the bacilli obtained from the spleen of a mouse dead from natural infection after 19 days. There was no reaction. Therefore, it was evident that the bacillus was so changed by the prevalent cold that there was not the normal production of toxins, or that they were much attenuated.

On Dec. 12, in each of two sterile cages there were placed two white mice, and given grain inoculated with bac. icteroides, obtained through an African ape from one Patrick Smith. One cage was placed in a temperature of 18 C., and the other in an incubator at 25 C. On Dec. 21, a mouse in the warm cage was very ill; its mate seemed thin and ill. On Dec. 23, one was dead and the other was quite ill. All in the cold cage seemed well. On Dec. 27, the remaining mouse in the hot cage was dead. Autopsies were made on both. In the first the pelt was yellowish on its inner surface; the liver was friable, not fatty to the eye; the spleen was normal. The cultures from the spleen gave pure colonies of the bac. icteroides. In the second mouse the pelt was yellow; the liver somewhat fatty, and the spleen enlarged—something unusual; from it the bacillus was regained in pure culture. On this date all the mice at 18 C. were apparently well, and one of them was transferred to the hot cage. Dec. 30, this mouse was dead. On the same day, the remaining mouse in the colder cage at 18 C. was dead. *Conclusion*—While the elevated temperature of 25 C., induced infection and death in about

the time usual in these animals in the tropics—8 to 10 days—the reduced temperature of 18 C. induced this infection and death only after twice the usual period, or in about 19 days.

On Dec. 29, two fresh mice were placed in one of the infected cages and 1 c.c. of fresh culture bac. icteroides added to their grain, the cage placed in the open air of the animal barn, one side of which was entirely open, the temperature that day averaging 11 C.

Dec. 30, Temp. 8.5 C. (average) ..... 47.3 F.
Dec. 31, Temp. 8.7 C. (average) ..... 47.4 F.
Jan. 1, Temp. 7.2 C. (average) ..... 45 F.
Jan. 2, Temp. 9.5 C. (average) ..... 49 F.
Jan. 3, Temp. 9 C. (average) ..... 47 F.
Jan. 4, Temp. 7 C. (average) ..... 44 F.
Jan. 5, Temp. 5 C. (average) ..... 40 F.
Jan. 6, Temp. 5 C. (average) ..... 41 F.
Jan. 7, Temp. 4.5 C. (average) ..... 40 F.
Jan. 8, Temp. 4.5 C. (average) ..... 40 F.
Jan. 9, Temp. 4.5 C. (average) .....
Jan. 10, Temp. 4.7 C. (average) .....
Jan. 11, Temp. 5 C. (average) .....
Jan. 12, Temp. 4 C. (average) .....
Jan. 13, Temp. 2 C. (average) .....
Jan. 14, Temp. 2 C. (average) .....
Jan. 15, Temp. 2 C. (average) .....
Jan. 16, Temp. 3 C. (average) .....
Jan. 17, Temp. 8 C. (average) .....
Jan. 18, Temp. 7 C. (average) .....
Jan. 19, Temp. 7 C. (average) .....
Jan. 20, Temp. 6.5 C. (average) .....

These give a general average of about 4.5 C., or 40 F., which is the frost-line, to which the animals were exposed without the appearance of any symptom of infection. At the end of this time the animals were transferred to a clean cage and the infected one was sterilized, the animals remaining well two months after the change.

At the same time, from January 5, two other mice were exposed to bacillus icteroides under the same conditions of temperature in the same barn until the 20th, an average of about 4.5 C., or 40 F., without the appearance of any symptom of infection. They were transferred to the clean cage with the other mice and remained permanently well.

These experiences demonstrate that the extreme degrees of cold, below the line of frost and approaching zero C., are extremely hurtful to the bacillus icteroides, attenuating it to such an extent that it failed to infect white mice, the most susceptible of animals, during an exposure of 23 days. Moreover, these are the only exposures of these animals which failed to result in infection in from 3 to 5 days at high temperature, and a longer period as the temperature became reduced.

BIBLIOGRAPHY.

1 Sternberg: Report on Yellow Fever, U. S. M.-H. S., 1890.
2 Sanarelli: Annales de l'Institut Pasteur, June, 1897.
3 Report of Commission of Medical Officers, U. S. M.-H. S., on the Cause of Yellow Fever, July, 1899.
4 Sanarelli: Annales de l'Institut Pasteur, June, 1897.
5 Reed and Carroll: Medical News, April 29, 1899.
6 Novy: Medical News, 1899.
7 Sanarelli: Medical News, October, 1899, and March, 1900.
8 Report of Commission, etc., U. S. M.-H. S., pp. 13 to 15.
9 Sanarelli: L'Oeuvre Medico-Chirurgicale, April, 1898.
10 Ibid.: Annales de l'Institut Pasteur, June, 1897.
11 Fitzpatrick: Before the New York County Medical Association, March 19, 1900; Medical Record, April 7, 1900.

DISCUSSION.

Dr. Simon Flexner, Philadelphia—I have been much interested in Dr. Wasdin's exhaustive paper. The high value of it is, of course, dear to everyone who has followed the literature of the subject since Sanarelli's discovery. Most bacteriologists believe that Sanarelli has done no more than point out the existence of a hitherto unknown pathogenic micro-organism in the bodies of a certain percentage of persons dead of yellow fever. The complete proof of its relation in a causative way to the disease is yet to be brought. This evidence, Dr. Wasdin thinks, is supplied by his experiments. He will, I am sure, permit a reasonable amount of scepticism even after his series of experiments. If we are to conclude that animals are subject to accidental infections with the bacillus icteroides, how are we to harmonize the absence of similar infections during the prevalence of the natural disease? Dr. Wasdin doubtless has established that the bacillus icteroides is capable of a high degree of potency; that its diminution in the air may lead to infection in animals; but I fail to see that by those experiments he has proved that he has produced yellow fever.

Dr. Gerry, Boston, Mass.—I should like to ask regarding the immunity of patients who have had yellow fever, if they really were immune. During the Cuban war we heard a great deal about the immune, and there seems to be a fixed idea that these people were really immune.

Dr. Eugene Wasdin, closing the discussion—The remarks of Dr. Flexner should carry much weight. It is certainly right to criticize, and I know of nothing that would be more productive of good. We feel convinced that further investigations will prove the value of the observations of Professor Sanarelli. In regard to the question of actual immunity from yellow fever I should like to have some one in the audience reply. I can not do so. I can only state my own observations in the epidemics of yellow fever and what occurs in endemic centers. One attack does not protect absolutely against a second. I have seen several cases in which two attacks were enjoyed. There was black vomit freely ejected. The soldiers in Cuba supposed to be immune sometimes did suffer from a second attack. I regret that the time is so short that it will not permit me to go into details of the paper which would have been interesting and would satisfy some of the inquiring minds showing the amount of work condensed in the report of the commission made in 1899.

DEMONSTRATION OF HOME MILK MODIFIER.*

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The best food for an infant is its mother's milk; in its absence comes milk properly modified. Up to the present, this has been difficult of accomplishment. The Walker-Gordon Company has set a standard of what can be done in this direction, and now the Sheffield Farms Company, of New York, has opened a laboratory for the modification of milk. But such laboratories are situated in only a few of the larger cities, and their product is so expensive that their usefulness must necessarily be limited.

The modification of milk at home entails much elaborate calculation on the part of the physician; much patience and intelligence on the part of mother or nurse; methods so crude for the most part as to render the procedure difficult and inaccurate. However, although modified milk is acknowledged to be the best artificial food for an infant, it is comparatively little used.

The apparatus which I desire to demonstrate today is not intended to replace the laboratory, nor will it supply the needs of every infant. It will, however, if properly used, provide a food for any healthy infant for the entire first year of its life. It was suggested by Dr. Sidney V. Haas, of New York. This apparatus consists of a glass jar showing seven panels, with lip, capable of holding 16 ounces. One of the panels presents an ordinary ounce graduation, the other six panels present six different formulas for the modification of cow's milk, each

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formula so arranged as to make it suitable for a certain period of the infant's growth, viz.:

Formula	1	2	3	4	5		6
Fat, per cent.	2	2½	3	3	4		3½
Sugar, per cent.	6	6	6	8	7		3½
Proteids, per cent.	.06	.08	1	1½	2		2½
	3d to 14th day.	2d to 6th week.	6th to 11th week.	11th wk. to 5th month.	5th to 9th month.		9th to 12th month.
Milk, parts	1⅓	1⅔	2	4½	6		
Cream, parts	1⅓	1⅔	2	2	2	Milk, parts	9¾
Limewater, parts	1	1	¾	¾	¾	Cream, parts	1
Water, parts	12½	11¾	11¼	8¾	7⅛	Barley gruel, parts	5¼
Milk sugar, parts	1	1	1	1	1¾	Granulated sugar, parts	¾

DIRECTIONS FOR FORMULAE 1-5.

The lines underneath the words indicate the points to which the various ingredients are to be filled in.

1. *Milk Sugar*—Introduce milk sugar to the line thus marked. Milk sugar is preferable, but where good milk sugar can not be obtained granulated sugar should be used, in just half the quantity. The small cross on the apparatus indicates the point for the latter emergency.

2. *Water*—Add boiled water (hot) to the water mark; stir until sugar is dissolved. If any particles are to be seen floating in the solution it should be filtered either

through absorbent cotton, or a piece of clean muslin (two thicknesses).

3. *Limewater*—Ordinary limewater as bought in the drugstore should then be filled to the L. Water mark. (This is to overcome the acidity.)

4. *Cream*—This should be the ordinary cream, (16-20 per cent.) as obtained in bottled milk and as commonly delivered by the dairymen and should be filled to the cream mark. If cream is bought separately, the ordinary light cream should be used and never the very heavy cream.

5. *Milk*—Ordinary good cow's milk should be used and filled to the milk mark.

6. Stir the entire mixture.

7. The whole should then be poured into separate bottles and sterilized, or pasteurized if desired, and stoppered with cotton and placed immediately upon ice.

DIRECTIONS FOR FORMULA 6.

1. *Sugar*—In this formula granulated sugar should be used instead of milk sugar. Introduce the same into the vessel to the line thus marked.

2. *Barley-Gruel*—In this formula barley-gruel should be used instead of water and filled to the line thus marked. Barley-gruel should be prepared as follows: To one tablespoonful of pearl barley—after soaking several hours—add one pint of water, a pinch of salt, and boil for 5 or 6 hours, adding water as it boils away. Strain through muslin; or, one rounded tablespoonful of Robinson's barley flour; rub up with cold water, and add to one pint of boiling water; cook 15 minutes, stirring, and strain if lumpy.

3. *Cream*—Add the same as in other formulas.

4. *Milk*—Add the same as in other formulas.

5. *Stir*—Same as in other formulas.

6. *Sterilize*—Same as in other formulas.

The formulæ of the apparatus are calculated upon a 20 per cent. cream, and whole milk, *i. e.*, milk containing 4 per cent. of fat. Practically, however, the milk as obtained in bottles in the city will furnish the ingredients, the cream layer answering for the 20 per cent. cream, and the milk and cream left in the bottle shaken up together will supply the milk—a milk containing somewhat less than 4 per cent. of fat. Outside the cities where bottled milk is supplied, cream obtained in the usual way, by allowing it to rise in shallow vessels, and whole milk will answer.

Full directions and a schedule for the quantity of fat, the number of feedings, and the intervals between feedings accompany the apparatus.

SCHEDULE FOR FEEDING A HEALTHY CHILD DURING THE FIRST YEAR.

Formula	Age.	Number feedings in 24 hours.	Interval between feedings by day. hours.	No. night feedings 10 p.m. to 7 a.m.	Quantity for one feeding. oz.	Quantity for 42 hours' oz.
1	2 to 14 days	10	2	2	1 to 2.5	10 to 25
2	2 to 5 weeks	10	2	2	2 to 3.5	20 to 32
3	5 to 10 weeks	8	2.5	1	3 to 4.5	24 to 36
4	10 weeks to 4 months	7	3	1	4 to 6	28 to 42
5	4 to 9 months	6	3	0	5 to 8	30 to 48
6	9 to 12 months	5	3.5	0	7.5 to 9.5	37 to 48

A large child should receive the maximum quantity and sometimes even a little more; a small child should receive the smaller quantity and sometimes a little less. The hours for feeding should be kept conscientiously as indicated.

This apparatus is absolutely simple in its use. Nothing could be more accurate except the laboratory. It is capable of forming other percentages than those fixed by the combination of two of the formulæ. It is inexpensive. The modification is rapidly accomplished, and what is most important, it gives results. In those cases which have been under my observation in which this apparatus has been used there has been a steady gain in weight; the easy graduations by which the food is strengthened abbreviates entirely the gastrointestinal disturbance which is so apt to follow a change in an infant's diet.

If the following points are observed, the instrument can not fail: 1, fresh milk and cream of proper quality; 2, formula suitable to indvidual case; 3, quantity at each feeding suitable to individual case. In other words, this apparatus must be used as any drug is used. First the preparation is selected, then the proper dosage is prescribed.

Combined Wire Ligature and Vessel-Crusher.—Michaux announced a new method of hemostasis at the International Medical Congress which combines the advantages of a rapidly and easily applied ligature and of a vessel-crusher. The vessel is taken up on the female blade of the instrument, in which is fitted a U-shaped piece of silver wire. As the male blade closes on it, the ends of the wire are crossed and crushed to form a permanent ligature on the vessel, which is itself crushed at the same time. His experience with twelve major operations, including several amputations, has been extremely favorable.

THE REEFING OPERATION FOR MOVABLE KIDNEY.*

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It is well known that Hahn in 1881 first practiced nephrorrhaphy or nephropexy, since which time the operation has become a common one. The work done by Landau, Bruce Clark, Reidel, Tuffier, Guyon, Delvoie, Jaboulay and others, has reduced it to the class of procedures nearly free from risk in careful hands, and pretty sure to give relief in cases which require it. The mere presence of floating kidney is not an indication for operating. Some kidneys can be distinctly palpated which give no other symptoms; some which cause distress, are satisfactorily held by supporters. There has been much discussion as to what kind of supporter best retains a wandering kidney. A form of spring truss with a pneumatic pad always seemed to me mechanically more perfect than a belt or corset, inasmuch as the spring can push up under the costal arch in a way the belt can not imitate, just as the hand does in palpating and replacing the prolapsed organ.

Turning to operative treatment, we find also a somewhat unsatisfactory state of things in the frequency of relapses. It is true that a majority of cases of nephropexy remain cured or permanently benefited, and in so safe an operation a repetition is not a serious thing; but it would be still more satisfactory surgery if we could avoid all relapses and repetitions.

Hahn's first series of cases consisted of operations done by suturing the fatty capsule. A majority of these relapsed. He next included the fatty and the fibrous capsule in his stitches. In this method he had fair success. Out of 27 cases there were 15 cures, 4 improved, 7 relapsed, 1 died; total, 27.

Various operators—Riedel, Tuffier, Guyon, Nicoladoni—began to strip parts of fibrous capsule, after removing the fatty capsule, thus allowing the cortex of the kidney and the everted flaps of fibrous capsule to form a firmer union to the fascia lumborum. Suture of the parenchyma, in addition to free dissection of the fatty and fibrous capsule, is advocated by most recent writers, with the exception of a few who believe this endangers the kidney.

Jaboulay avoided sutures, and relied upon iodoform gauze packing to support the kidney in position until granulation tissue had formed around it to bind it in its bed. Senn advocates this method, and passes one loop of the gauze packing around the lower pole to insure its retention high up in the wound.

I have operated on a number of wandering kidneys, several of them double operations, and mostly by the older method of removing the posterior part of the fatty capsule and thus uncovering the fibrous capsule. This I formerly split into two flaps, which were everted and stitched to the muscles. Two long catgut stitches were then passed deeply through the kidney substance and out through the muscles. The muscles themselves were closed with buried sutures, and the deep sutures in the kidney substance tightened last of all. I am decidedly of the opinion that the stitches in the parenchyma cut through if drawn hard. In fact, I have seen this occur at the moment of tying.

I have usually sealed these wounds without drainage, and have had aseptic results; but in one instance a hematoma formed, which was slowly absorbed, and which was the cause of a partial relapse, probably by pushing the kidney forward and so preventing union with the posterior fascia.

On the whole, nephropexy by this method gives fair satisfaction. No dangerous symptoms have ever followed the operation in my experience, and it has always proved easy of execution. About 25 per cent. of relapses certainly followed, but in no case has the kidney been as movable as before, nor the pain as severe. This corresponds with the statistics collected by Delvoie, Keen, Langenbuch, and others, as follows:

	Cases.	Improved.	Cures.	Relapses.	Deaths.
Frank found in	39	. . . . .	21	18	0
Keen found in	59	. . . . .	39	20	0
Sulzer found in	93	10	56(%)	31(%)	3
Devoie found in	215	30	135	45	5

Classifying according to type of operation, we have as follows:

	Cured.	Improved.	Relapsed or failed.	Died.
Suture fatty capsule	4	3	7	0
Suture fibrous capsule	10	3	9	2
Suture parenchyma	75	14	19	2
Suture parenchyma capsule stripped	9	0	1	0
Special methods	37	10	9	1
	135	30	45	5

Before describing the new method, a few words by way of explanation may be in place. A fact that has been emphasized to me many times in operating on the kidney is that it is normally a very movable organ. As seen in the operation field, it is never at rest, but rises and falls with respiration, making a descent of about one inch with each excursion of the diaphragm. What happens now when we suture it tightly to the muscles? This rhythmic motion the organ shares with the other viscera below the diaphragm. That is, the liver, spleen, stomach and transverse colon, and kidneys rise and fall *en bloc*, or in unison. It is perfectly clear that, as the right kidney lies with its upper pole in a hollow made for it in the lower surface of the liver, a collision must take place between these two organs if the kidney is fixed artificially. In other words, the liver must thump or strike against the motionless kidney with each inspiration. Furthermore, as to the anterior ligaments of the kidney, the attachments to the other viscera are less firm, but they all have to do with holding the kidney in place or out of place. In case of enteroptosis and gastroptosis, I believe the kidney is dragged down, and its prolapse is entirely secondary. If we could palpate all the other viscera as certainly as the kidney, we should think less of the latter as a cause of the digestive trouble. Many patients with dilated stomach and enteroptosis refer all their pain and gastralgia to the misplaced kidney, which they can so easily feel with the hand, and think that if it were only kept in place the abdominal troubles would be gone. They seek an operation, and may be disappointed wholly or in part, because the sutured kidney can not bear the strain of supporting all the viscera. It must pull down under their dragging weight to some extent. Some nervous women would be better off if they never had been told that they had a "floating kidney." I should consider such a condition curable only by a combined operation on the viscera and kidney, or kidneys. The slighter respiratory excursion which the organ makes, is different only in degree from that of movable kidney. It would seem that when we endeavor to cure the latter by operation, we ought to leave it a small degree of play. How

*Read before the Chicago Surgical Society, April, 1900.

to do this is a difficult mechanical problem. The fascia near the vertebral column and twelfth rib is very rigid and strong, as are the deep muscles, like the quadratus lumborum.

I now wish to call your attention to the fatty capsule, or capsula fibro-adiposa, and Gerota's capsule in front of it. We have seen that this structure was used by the first operators, like Hahn, in 1881, to hold the sutures in nephrorrhaphy. As already stated, this proved too weak a tissue, and out of 14 cases reported, 7, or 50 per cent., failed or relapsed. This was doubtless due to the inability of this layer to hold sutures properly. Nevertheless, I have found that I could always seize the fatty capsule of a prolapsed kidney, pull the organ up by it, and hold it firmly in the wound as long as I needed. This came about in the following manner: I have usually split this fatty envelope longitudinally, and thus formed of it two flaps, each of which I cut off, so as to bare the posterior surface. Now, in doing this I was each time more impressed with the complete control these flaps gave of the kidney. With these held by an assistant, the organ can be pulled firmly into the wound and held there much better than by pressure of the hand in front. I have several times had these flaps laid outward on the skin on each side, temporarily, to fix the organ, while I was splitting and sewing the fibrous capsule, as in Fig. 1.

It was also noticed that the respiratory movement continued however tightly the fatty sac was drawn, which was in direct contrast with what is seen when the fibrous capsule is sewn. The fibroadipose capsule contains in fact a reticule of fibers, forming a complete pouch for the kidney, in which it has free room to move. It reminds me of nothing so much as the dartos of the scrotum, having considerable strength of an elastic kind, yet allowing a free gliding movement of its contents.

Now, while the fatty, fibrous kidney capsule is not strong enough to hold stitches well, it occurred to me that it was strong enough to hold far more than the weight of the kidney, if its whole sac-like character could be utilized. This I have tried to do by an operation of gathering it together posterior to the kidney, and pulling it out through the lips of the wound. In dissecting this layer off the posterior wall, as in the older operations, I had often noticed that this fatty capsule was voluminous, and that the kidney was drawn fully up only when the former was well outside. It was therefore evident that it must be shortened, but still the problem remained of how to attach such a frail structure in which stitches could get no firm hold. It seemed that all attempts to use it were likely to end, as Hahn's original efforts had, in frequent relapses. I found, however, that by one method I could support it in the wound without tearing it. This was by gently holding it in the incision while the latter was closed with deep and superficial stitches. Thus the lips of the wound closed on it with a uniform pressure, and did not tend to cut it as sutures alone would do.

After perfecting this method as well as I could, I found that the *atmosphère cellulo-grassieuse,* as this layer is called by the French writers, has been used by Doyen, in 1898-99, in what he calls his hammock operation, the fatty capsule being shortened, and slung by stitches to the lumbar fascia and sometimes the twelfth rib. This seems like a return to Hahn's unsuccessful method, but the plan of suspension by shortening the whole sac contains the germ of a good idea.

I explained this method at the last annual meeting of the St. Joseph County Medical Society, and was interested to hear a description by Dr. F. C. Ferguson, of Indianapolis, of a method practiced by him, in which he draws all the coverings of the kidney, including the peritoneum, back by stitches to the lumbar muscles. To do this he opens the abdomen. In some respects this is ideal, but I should fear the loops of suture might in certain cases compress the ureter or vessels.

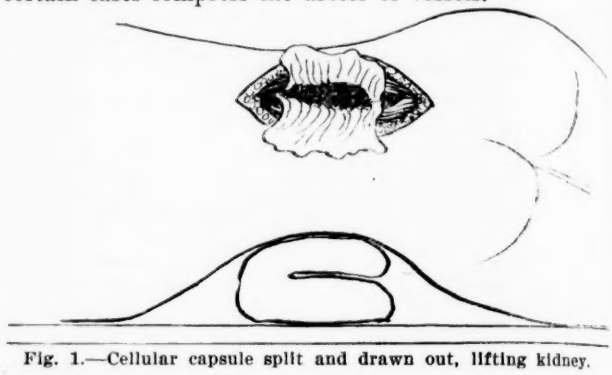

Fig. 1.—Cellular capsule split and drawn out, lifting kidney.

Dr. Harvey Reed has advocated a method also involving an anterior incision, in which the hand is introduced into the peritoneal cavity, the kidney grasped and held back in its lumbar pocket, while sutures are passed into its substance through the posterior skin and muscle, without a posterior incision. This seems to me to endanger the vessels and ureter.

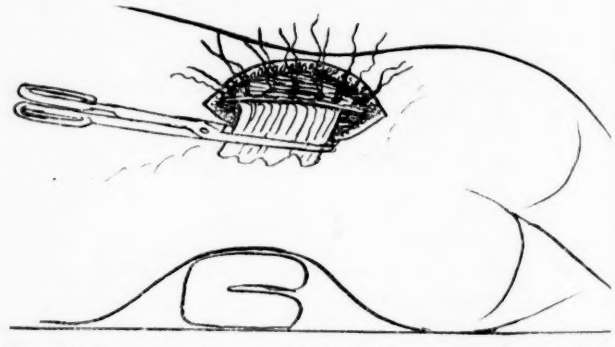

Fig. 2.—Cellular capsule clamped between muscles by mattress suture.

Dr. L. H. Dunning, of Indianapolis, was a pioneer in nephrorrhaphy, being one of the first in America to take up the work of Hahn. I am of the impression that he has made use of the fatty capsule in some of his cases. I have this statement from him:

The article to which I referred in the discussion of your paper may be found in THE JOURNAL, Vols. IV and V, 1885. I have also found the original draft of my paper, read before the International Congress, but it does not touch any new facts concerning nephrorrhaphy.

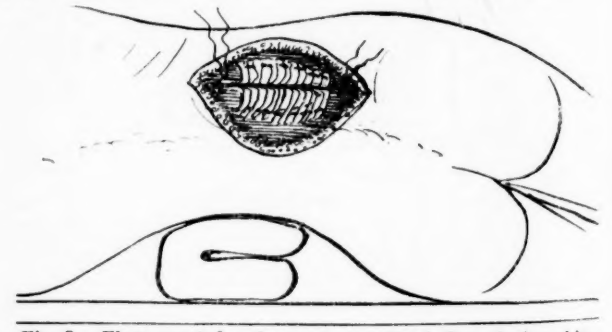

Fig. 3.—Flaps everted and sewn to muscles before closing skin.

Upon a few occasions I used a method somewhat similar to the one you indicated, but it is not so likely to be successful

as yours, for the reason that I only pulled up the lower portion of the fatty envelope. In your operation, as I understand it, you propose to pull out between the edges of the wound a considerable portion of the cellulo-adipose envelope, and include this in the sutures that inclose the incision.

That method seems to me to be feasible, and I shall try it. I wish you success in the working out of the solution of this perplexing question. Truly yours, L. H. DUNNING.

TECHNIQUE OF THE REEFING OPERATION.

1. Incision at outer borders of quadratus from twelfth rib to ilium. This is carried through the lumbar fascia and along edge of quadratus to loose fat about kidney.

2. The muscles are retracted and the fatty capsule split the whole length of the kidney. The two flaps thus formed are pulled outside, and the kidney thus held well up and back. Care should be taken that the lower pouch of this capsule is pulled high up. In cases of great prolapse, the fatty capsule will be found drawn into a long tube, like a stocking. It will surprise one who has not tried it to see how nicely it can be reefed by drawing it out of the skin opening, and how well the kidney obeys every pull we make in the upward and backward direction. It is expected that Gerota's capsule is included. Five or six inches of this fatty sac can sometimes be drawn up. The kidney will now be seen to lie snugly in the lumbar wound, and yet to rise and fall in respiration. Probably it will be an inch or more below its normal place. This is an advantage, because it removes from it the pressure of the liver, and enables us to hold the entire organ and not merely its lower pole. I have had cases of relapse by older methods in which the lower pole was still anchored by my stitches, while the upper end tilted forward and could be felt below the costal arch in front.

3. The broad segments of the fatty capsule, and its enclosing, or Gerota's, fascia already drawn outside are now held by the hands of an assistant or by long forceps, while the opening in the muscular wall is closed by a line of mattress stitches. These transfix the fatty capsule. The real support is obtained, however, not by the stitches, which would cut out, but by compression between the muscles.

4. The flaps should now be cut off an inch or two outside the muscle, everted and stitched down, after which the skin can be closed in any simple manner. In Dr. Steele's case we brought the fatty capsule out through the skin also, and cut off the surplus. These wounds seem to belong to a class in which primary healing is easily obtained.

REPORT OF OPERATIONS.

CASE 1.—M. F., aged 27, multipara. First noticed dragging pain and soreness two years previous. The right kidney descended so far as to touch bladder, and was easily palpated in any position. No enteroptosis.

Operation, with oblique incision. Kidney drawn easily into wound and held by broad ligament forceps clamped on fatty capsule. The latter was drawn out and upward four or five inches outside skin. In this case I had not thought of the mattress stitches, and I used interrupted catgut of large size, closing the muscle, and compressing the fatty capsule into a roll which had a tendency to keep the muscles apart. The skin was closed over with buried catgut and a collodion seal on wound.

Primary union occurred, and thirteen months after operation there was no return.

CASE 2.—Miss G., aged 24. Some history of dyspepsia, and dilated stomach. Had for seven or eight years pain and dragging in right side. The movable kidney was discovered by her physician, who advised a supporter. This gave only partial relief.

Operation, with vertical incision from ribs to pelvis. Quadratus and psoas formed inner boundary of muscular cut. Capsule drawn freely up, held with two broad ligament forceps, and a line of mattress stitches made to grip it while closing the muscle. Skin closed over the whole, and a small drain inserted. After the skin wound was closed, a flat tumor formed by the excess of fatty capsule could be felt and seen outside the muscle.

This patient had no recurrence after six months.

CASE 3.—Miss S., aged 32. For nine years had had pain in walking, some gastric disturbance, neurasthenic symptoms, and a palpable tumor in right side, which descended as far as the anterior superior spine of the ilium. When held in position by the hand, patient felt much relief, and also in lying down. No bandage had been found which did not seem to increase the trouble by getting above the kidney and pushing it down.

Operation, by vertical incision from ribs to pelvis. Quadratus and psoas as usual formed inner boundary of the muscular cut. Adipose capsule was drawn out, after dividing it lengthwise, and held by two long clamps. The kidney came well into the wound. Eight mattress stitches of chromicized formalin gut were used to close the muscles, and this seemed to hold the capsule very smoothly. The fatty flaps were then turned outward, and sewn to the muscles in opposite directions, after which the skin was closed with buried sutures, and a small bundle of silkworm gut left in the lower angle.

Primary union occurred here, and no recurrence had appeared after five months.

CASE 4.—Miss H., a patient of Dr. D. A. K. Steele, aged 25. Has had a right wandering kidney for several years, causing local pain, malaise and nervous symptoms.

Operation, at Chicago Hospital, by Dr. Steele, assisted by myself. The oblique incision was used, and the kidney easily found. The fatty envelope was divided longitudinally. The two flaps thus formed seemed to have considerable strength, and all present noticed that the organ could be drawn up and held quite snugly against the posterior opening, while at the same time its respiratory movement did not cease. Catgut sutures were used, and the capsule drawn outside both muscles and skin.

No recurrence has taken place up to the present time.

CASE 5.—Mrs. M. V., multipara, aged 42. After a miscarriage two years ago had pain or sense of weight in right side. Dr. Eisendrath diagnosed wandering kidney.

Operation, at Post-Graduate School, by Dr. Eisendrath and myself. Vertical incision as before. Fatty capsule drawn out and held by two forceps, while sutures were placed mattress form, fixing it between muscles. The fatty capsule seemed a little more frail and tore easier than in my other cases. The skin was closed and a small drain placed in lower angle.

A relapse occurred in this case very early, whether from some imperfect carrying-out of the technique, or some inherent fault of the method, I should be glad to know. At a recent examination I found both kidneys markedly prolapsed, but the left more than the right.

CASE 6.—Miss A. R., aged 15. Had been under Dr. Johnson's care for gastric dyspepsia and neurasthenic condition, and on account of persistent pain in right side. Examination showed wandering kidney, with an excursion as far as brim of pelvis.

Operation, with vertical incision, and free exposure of fatty capsule. The latter, in two flaps, was drawn freely out, and the mattress sutures of catgut inserted. The two flaps of capsule were then everted and sewn down to the muscle with catgut. After closing the skin, these flaps could be felt to form a slight tumor.

No relapse has appeared in three months since the operation.

CASE 7.—Miss G., aged 26. Has suffered with gastric dyspepsia for several years. Wandering kidney is found on both sides. The duration is not known. Has also had several attacks of severe left renal colic and hematuria, and later passed calculi size of peas.

Dr. Fütterer advised exploration of left kidney, and nephropexy of both. In a previous double nephrorrhaphy on one of Dr. Fütterer's patients I had used the old method, but I had now acquired enough confidence in the new operation to use it in every case.

Operation, on right kidney with vertical incision. On left side the oblique cut, one inch below the twelfth rib, was used, so as to be prepared for removing stones, and possibly following ureter. The kidney was explored digitally, and by needling, and as no signs of pyelitis or calculus were discovered, the reefing operation was done on both sides. The fatty cellular capsule was reflected upon the muscular flaps, while the latter were closed by mattress sutures of catgut. The reflected capsule was then sutured down on each side. The wounds were drained with iodoform gauze, extending to the lower pole of each kidney. Primary union was obtained, and the patient sat up on the eleventh day.

This case is too recent to have much value in the statistics. So far, the result has been perfect.

CONCLUSIONS.

1. The adipo-cellular capsule and Gerota's capsule are strong enough to hold up a wandering kidney.
2. Stitches can not hold this tissue, but pressure between flaps may do so.
3. Nephropexy will often fail in wandering kidney brought about by gastroptosis and enteroptosis.
4. The new method—reefing operation—has been tested from one to thirteen months, and has shown fair results.
5. The interposed fascia has not caused failure of union in any case.

ACUTE GRAVES' DISEASE.*

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The diseases described in text-books under the heading, "Diseases of the ductless glands," are usually chronic in their course. There are interesting exceptions to this rule. Fussell and Taylor have collected from literature 56 cases of acute leukemia in which death occurred in from two to three months. Graves' disease is still more strikingly chronic in its course. The number of fatal cases of acute Graves' disease reported by American authors is remarkably small. The only fatal cases which I have been able to find are those of J. H. Lloyd[1] and F. P. Henry.[2] A few cases have been reported in which the symptoms of Graves' disease came on suddenly, lasted for a few days, and disappeared with recovery. In French, and especially in German, literature, the reported cases are more numerous, but still rare. Cases of this interesting form of the disease have been reported by the following authors, besides those referred to above: Trousseau,[3] Peter,[4] Roth,[5] Foerster,[6] Gräfe,[7] Freudenberger,[8] Mackenzie,[9] Solbrig,[10] Eger,[11] Reymond,[12] Mueller,[13] Hirschlaff,[14] Sutcliff,[15] Moore,[16] Kinnicutt,[17] and Patterson.[18] The case which I wish to add to this list of acute Graves' disease died while under my care at the University Hospital.

Mrs. P., aged 33, married, born in Germany, but a resident of Michigan for many years, occupation, housewife. Her father died at 75; had articular rheumatism for thirty years previous to his death. Cause of mother's death not known. One paternal uncle had rheumatism. The patient was well as a child, and had none of the ordinary diseases of childhood. Menstruation began at 18, was regular, normal in amount, and without pain until three years ago, when her periods, which lasted three days, were followed by severe pains in the front of the thighs, and a white discharge from the uterus, which lasted three days. Menstruation ceased entirely one year ago, with disappearance of the pains in the thighs. Patient was married at 22, and one year afterward was confined at 7 months, child being still-born. Overwork was thought to be the cause of this premature labor. A second child was born two years later and lived 12 months. A third child is 8 years old and in good health. Articular rheumatism began in one finger sixteen months ago, and gradually involved nearly all the joints of the extremities. The thyroid gland began to enlarge seven months ago, nervous symptoms soon developing. The patient's husband states that severe nervous symptoms and palpitation of the heart developed less than four months previous to the patient's admission to the hospital, immediately following a severe shock. The patient's only son was sick at this time with appendicitis. An operation was planned and the mother was almost prostrated with grief and anxiety. The symptoms appeared immediately after this shock. During the past two months the patient has been too weak to work. The bowels have moved four or five times daily and urine was voided with difficulty. There is constant thirst. The patient has grown rapidly weaker, emaciated, more nervous, and the diarrhea has continued.

Status Præsens.—Patient has the appearance of a very sick person; body is emaciated, though face is fairly full. She is extremely nervous and so restless that examination is made with difficulty. Mind is clear. Height a trifle below average; present weight 74 pounds, four months ago, 140 pounds. Frame slender, musculature very small and soft, panniculus very thin; skin of a light brown color, especially on face, very moist, patient sweating profusely; mucous membranes a trifle pale, tongue thick, with a fairly thick grayish coat on dorsum, teeth poor, no edema at ankles, joints not deformed. The thyroid gland is enlarged in both lobes and isthmus. The tumor extends from the clavicle to the angles of the jaw. The right lobe is the larger. There is marked pulsation in all of the veins and arteries of the gland, and over the gland. On palpation a fine thrill is felt. A loud "bruit de diable" is heard over the gland. Circumference of neck is 37.5 cm. There is no exophthalmos. Von Græfe's sign is absent. Möbius' sign is positive, as the eye can not converge for any length of time. On extending the hands a fine tremor is noticed. Thorax is rather small, of fair length, is deep and narrow; epigastric angle of fair size. The sternum projects and the angle of Louis is prominent. Expansion is small. Percussion of lungs is negative. On auscultation over right apex expiration is louder than inspiration. Over left apex inspiration is louder than expiration. Over remainder of front there is a weak, somewhat sharpened, vesicular murmur.

The apex-beat of the heart is in the fifth intercostal space, nipple line, and is heaving. On percussion, dulness begins on fourth rib and extends to left, to nipple line, is not enlarged to right. On the first sound at the apex there is heard a harsh, fairly loud murmur, which is well transmitted to the left axilla and is heard over the entire front of the chest. The second pulmonary sound is louder than second aortic, but is not particularly accentuated. Liver and spleen are not enlarged.

The lower border of the stomach is just above the umbilicus. Succussion sounds are present.

The patient was admitted to hospital April 11, 1899, with a temperature of 100, pulse 140, and respiration 30. She was very much exhausted and nervous, partially as the result of a long trip. Following our usual custom in the treatment of Graves' disease, the patient was put to bed and placed upon a light diet, because of an irritable condition of the stomach. An ice bag was applied over the heart, and strychnia, gr. 1/30 t. i. d. were given for three days, then thyroid extract was given in a tentative way, gr. v, t. i. d., and dilute hydrochloric acid after meals. These were continued for seven days, when all medicines were stopped, as the patient was vomiting and had a severe diarrhea. At this time she was taking broths, egg nog, milk and malted milk, but on attempting to swallow anything, vomited and retched fearfully, producing great exhaustion. On the twelfth day she took 23 oz. of malted milk,

*Read before the Detroit Medical and Library Association, May 14, 1900.

did not vomit, but had a number of watery stools; temperature was about 100 and pulse 122. On the thirteenth day she refused most of her nourishment, vomited once, and had a large number of soft stools. On the fourteenth day strychnia was resumed and patient retained most of her food, which consisted of broth and malted milk. On the seventeenth day, on account of diarrhea, bismuth, paregoric and chalk mixture were given, and peptonized milk was given as food. On the eighteenth day she refused most of her food and vomited frequently. Rectal feeding was now begun. Nineteenth day was a very hard one; most of the nutrient enemata were expelled; stools very numerous and watery, and she vomited frequently. Temperature varied from 99 to 101 and pulse ranged from 134 to 150. Patient was very weak and restless. On the twentieth day the patient was very restless; nutrient enemata were given, but most of them were expelled. At times she was so restless that the temperature could not be taken; morphia hypodermically and bromids were given per rectum; temperature rose to 104.5, pulse 160. Patient became wildly delirious—could not be controlled—and raved continuously. On the twenty-first day she grew more wildly delirious and could scarcely be kept in bed; temperature rose to 106.2, pulse to 200; at 10 a.m. temperature reached 107 and it was impossible to take the pulse. Patient died at 12 m.

Unfortunately, I was unable to secure an autopsy. The most salient points in the case are the cessation of menstruation one year before death, the appearance of the goiter seven months before death, the advent three months later of palpitation of the heart, tachycardia and nervousness, immediately after a profound emotional shock, the presence of diarrhea and vomiting, the great loss of weight—nearly seventy pounds in four months—the high pulse-rate and the high temperature toward the close of the illness, the presence of delirium and the complete absence of any evidences of exophthalmos.

From an etiologic standpoint the question of shock is an important one. A large number of cases have been reported in which the signs of exophthalmic goiter developed immediately after some profound emotional disturbance. Case 1, of Mueller's[14] series, was abruptly told of the death of Kaiser Wilhelm, and thought reference was made to her sister, who at the time was very sick with typhoid fever. She immediately became so weak that she took to bed, palpitation of the heart came on, loss of appetite and vomiting, exophthalmos and struma.

Trousseau[3] relates a case in which three cardinal symptoms of the disease appeared in a single night in a woman who had been greatly affected by the loss of her father. Kinnicutt, in the "American System of Practical Medicine," speaks of the following case in his practice: A woman, at sight of her husband covered with blood, was seized suddenly with violent palpitation and tremor, followed speedily by enlargement of the thyroid and protrusion of the eyes. Reymond[13] reports a case in which acute symptoms suddenly appeared following anxiety in a woman of 45, death occurring on the fourteenth day.

Sansom—"Allbutt's System," Vol. ii—reports a case developing suddenly after fright, but ending in recovery. Moore—cited by Ord and McKenzie in Vol. iv of "Allbutt's System"—reports a case occurring in a young girl after reading of her brother's death, in which the symptoms lasted only two days.

Some of the signs and symptoms of this disease have also developed following operations, severe attacks of pain, the administration of an overdose of thryoid extract and the section of the cervical sympathetic. In Mueller's series, Case 2, five years before the beginning of the disease, had a sudden blow upon the nape of the neck. In the third case, gall-stone colic preceded the attack many years. In Case 4 there was a long attack of fever of an unknown kind, following which the patient never entirely recovered.

Patterson[19] reports a case in a girl of 15; tonsillotomy was performed. A good deal of agitation and tremor of the hands were noted at the time of the operation. In the course of three weeks enlargement of the thyroid, tachycardia and exophthalmos developed. The tremor also extended to the legs.

If the histories of many of the reported cases of this disease had been worked out carefully, it is my belief that in the majority of them signs, though indistinct, of a pre-existing incomplete Graves' disease could have been obtained. The fright, grief or worry is simply an accidental factor in the disease, which has accentuated the signs already present and hastened the development of others. The entire human family would be suffering from Graves' disease if fright, shock and worry were sufficient causes. There is at this time either an unstable condition of the emotional nervous system, or the disease is present in its incipient stage. In my own case menstruation had ceased five months before the goiter was noticed, and eight months before the severe shock. Articular rheumatism, involving most of the joints, preceded the development of nervousness and tachycardia by a year.

In Reymond's case there was continuous tremor for more than a year preceding the acute attack. In Patterson's, the patient had been troubled with tremor of the hands for eighteen months, which had occasionally made writing difficult. Kinnicutt reports a similar case, in which, before there was any evidence of palpitation, a trembling of the hands had interfered seriously with his occupation of bookkeeping. Enlargement of the thyroid occurred six weeks later. In these cases the tremor was an evidence of the existing Graves' disease. Hirschlaff's case had palpitation of the heart and dyspnea at time of menstruation for nine years previous to the acute development of the disease. In 1895, after a fright, convulsions and unconsciousness supervened; similar attacks occurred every month, preceded by paresthesia of hands and feet. Excitement and anger brought on the attacks.

In the majority of acute fatal cases of this disease there is a history of uncontrollable vomiting and diarrhea, which soon exhausts the patient. In Sutcliff's case this feature was very prominent. Vomiting persisted in spite of all treatment till death. For three weeks no food was taken, even the sight of food bringing on distressing vomiting.

J. H. Lloyd's patient was thought to be suffering with cholera morbus. When examined in a good light the cardinal signs of Graves' disease were found. Vomiting continued, prostration became marked, pulse rose to 170, and was tumultuous; patient died at end of third day of illness. Post-mortem was performed by Dr. Dock, showing heart, lungs, kidneys and suprarenal capsules practically negative.

Hirschlaff's case, toward the end, had diarrhea. In Mueller's four cases symptoms on the part of the abdomen ushered in the scene in three cases; there was gastralgia, vomiting and diarrhea, the diarrhea being especially persistent in the first case. In three of his cases, the voice acquired a nasal twang, becoming toneless and soft. Several showed bulbar symptoms in a slurring of the speech.

Psychical condition.—All four of Mueller's cases showed great restlessness, irritability and excitability. The great motor restlessness continued until death. The first three cases had delirium at the periods of exacerbation. Case 4 had feelings of anxiety, associated with frightful dreams and hallucinations. My case showed wild delirium toward the close. Henry's case was markedly delirious. Hirschlaff's case showed great restlessness, amounting almost to choreic movements. A number of hysteric attacks occurred following trifling annoyances. Very rapid tremor was present in all four of Mueller's cases. It was also marked in Hirschlaff's case and my own. Patterson's, Reymond's and Kinnicutt's cases all showed fine tremors. Charcot first called attention to the tremor as a symptom in Graves' disease. Marie thinks it presents characteristics which distinguish it from all other forms of tremor. The to-and-fro movements of Graves' disease occur at a rate of 8 to 9½ per second, whereas the tremors of paralysis agitans, general paresis, alcoholism and general senility are much slower, about 4 to 5 per second, and more regular. The importance of the presence of tremor should be emphasized because of the assistance it gives us in diagnosing incomplete and incipient forms of Graves' disease.

The number of post-mortems on acute cases of Graves' disease is small. Mueller makes the following reports in the cases examined by him:

Case 1 died three and a half months after beginning of the disease. Numerous small fresh hemorrhages were found in the medulla oblongata, especially in the neighborhood of the vagus nucleus, and in the upper olive body; otherwise the cerebral peduncle, pons, oblongata and spinal cord were normal. The vagus trunk showed considerable degeneration on both sides, in slight degree also the recurrent vagus and the heart nerves. The sympathetic appeared entirely normal. Near the enlarged hyperplastic thyroid were a number of lymphatic glands the size of cherry-stones, showing fresh and old hemorrhages throughout their substance.

Case 2 died in a little over two months from the beginning of disease. Struma, slight heart hypertrophy and numerous swollen lymph-glands in the neck were present. The spinal cord, medulla, pons and cerebral peduncles were normal. On the floor of the fourth ventricle were rather numerous, fresh hemorrhages, arranged especially in and about the vagus nucleus. The sympathetic was normal.

Case 3 died in less than six weeks from beginning of disease, and showed nothing abnormal either in brain or medulla, except a moderate degree of edema. The sympathetic was normal. Besides the old cholelithiasis there was struma and brown hypertrophy of the heart muscle.

Case 4 did not come to the post-mortem table.

Case 5 was a subacute one, dying after ten months of illness. Post-mortem showed the sixth and eighth dorsal vertebræ carious. There were several small fresh hemorrhages in the fourth ventricle; no other changes in the brain. Vagus, recurrens, cardiac nerves and cervical sympathetic without demonstrable changes. The dorsal sympathetic in the neighborhood of caries was interrupted. The splanchnic was normal; thyroid hyperplasia; no hemorrhages; numerous swollen cervical lymph-glands were hyperplastic and studded with fresh and old hemorrhages. There was brown atrophy of the heart. Seeligmueller (Lehrbuch der Nervenkrankheiten) reports a similar case of Basedow's with spondylitis, which recovered. Peter reports a case which died after an illness of eight days, in which both lower cervical ganglia were enlarged, the ganglion cells small and in part granular, and the nerve elements diminished. The upper middle cervical ganglia were normal.

In Hirschlaff's case post-mortem showed adenoma of the thyroid, hyperplasia of the thymus, tonsils, spleen and of the adenoid tissue in the stomach and intestines, hypertrophy and dilatation of the heart.

The only pathologic lesion which is found constantly present in these cases of acute Graves' disease is the diseased thyroid gland, which is usually hyperplastic. Supporters of the theory that disease of the sympathetic nervous system is the cause of Graves' disease point to the fact that Beveridge, Smith, Knight, Virchow, Biermer, Moore, Hopfengærtner and Johnson have all reported cases of Graves' disease in which changes were found in the sympathetic.

Analogous changes in the sympathetic, however, have been found in other diseases, such as traumatic neuroses, Bright's disease, tabes and diabetes. On the other hand, the supporters of this theory must remember that in numerous cases of Graves' disease the sympathetic has been found to be normal. Pathologic changes in the brain and cord are not sufficiently constant to give them any importance from an etiologic standpoint.

The striking difference between acute and chronic cases lies not in the pathologic findings, but in the greater intensity of the symptoms, especially those on the part of the gastro-intestinal tract, evidencing a more profound intoxication with perverted or excessive normal thyroid secretion.

Treatment is of no avail. Digitalis, strychnia, bromids, morphia and thyroid extract have all been used, and with indifferent results.

The use of thyroid extract in Graves' disease, acute and chronic, is condemned by many as irrational. If one accepts the theory that Graves' disease is the result of an excessive secretion of the thyroid gland, it certainly would be illogical to prescribe thyroid extract. It would be just as sensible to give hydrochloric acid in Reichman's disease and expect an improvement in the symptoms. However, upon the ground that this disease is the result of an absorption of an excessive amount of perverted thyroid secretion it is good treatment to give these patients thyroid extract. By supplying artificially a normal secretion, it is possible for a diseased organ to recuperate and regain its normal function. In diseases of the stomach with subacidity we prescribe hydrochloric acid, and in many cases, the stomach regains its power to secrete a normal gastric juice. In the treatment of the disease we must guard against drawing too favorable conclusions regarding the efficacy of therapeutics. The disease is prone to improve without or in spite of treatment. On the other hand, exacerbations may occur during treatment, and one is led to think that the medication is responsible for the relapse, when it is without blame. It can not be foretold whether thyroid extract will do a patient good or harm, but many patients with the chronic type of the disease have improved under its use, and it seems a justifiable clinical experiment to try this drug in the treatment of Graves' disease.

BIBLIOGRAPHY.

1. J. H. Lloyd: Medical News, Phila., 87-88, v, 330.
2. F. P. Henry: Cited by Osler. Text-book.
3. Trousseau: Clinique Médicale de L'hôtel Dieu et Gazette Méd. de Paris. 1864, No. 28.
4. Peter: Gazette hebdomad. 1864, No. 12.
5. Roth: Zur Casuistik des Morbus Basedowii. Wiener med. Presse. 1874. No. 30.
6. Færster: Græfe-Sæmisch's Handbuch der Augenkrankheiten. vii, I. S. 96.
7. Græfe: Berliner Klin. Woch., 1867, No. 31.
8. Freudenberger: (Ziemssen), Aerztliches Intelligenzblatt. 1879. No. 28.
9. Mackenzie: Citirt bei Sattler, Monographie der Basedow'schen Krankheit in Græfe-Sæmisch's Handbuch der Augenkrankheiten, Bd. vi, 11.
10. Solbrig: Allgem. Zeitschrift of Psychiatrie, 1870.
11. Eger: Deutsche Med. Woch., 1880, No. 13.
12. Reymond: Bull. de la Soc. Anat. de Paris. Ser. 5, vii. 18, 456.
13. Mueller: Deut. Archiv f. Klin. Med., Leipsic, 1892-3, v. 1, 335-412.
14. Hirschlaff: Ztft. f. Klin. Med., 1899, Bd. xxxvi, p. 200.
15. Sutcliff: The Lancet, 1898, 1, 717.
16. Moore: Internat. Clinic, Phila., 1893, 3d s., 1, 92-96.
17. Kinnicutt: American System of Prac. Med., iii, 670.
18. Patterson: The Lancet, 1894, 1, 1370.

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MEDICAL ORGANIZATION AND THE REORGANIZED NEW YORK STATE MEDICAL ASSOCIATION.

The pernicious conditions existing in the medical profession, regarding its material interests, is a subject which calls for the consideration and earnest thought on the part of all the members of that profession who are interested in its welfare. These conditions are many and varied, and too well known to need repeating here. In every instance they are the result of a lack of organized effort, on the part of the profession itself, to remove them.

Organization in the medical profession of the United States is at present best defined as "chaotic." While there are nearly fifty states and territories, and as many state and territorial societies, there are also nearly as many plans on which these are organized. A few are based on the county society, membership in this carrying membership in the state body; a few others, recognizing the value of the county organizations, encourage them in a half-hearted manner; a majority of the state societies absolutely ignore the local society.

The basis for the complete organization of the profession must be the county or local society; this must be regarded as an axiom. Another assertion must be accepted as a truth before a complete and permanent organization may be looked for: The objects of the organization must include the material, as well as the scientific, welfare of the individual members. The average physician is only human, and he asks for a material return for the money and energy he has invested. This must come directly to him as an individual, or indirectly as a member of a profession which he sees materially benefited as a result of his investment. While the scientific and educational advantages of the ordinary medical society are alone sufficient to satisfy the few, the many are not so satisfied; they want something more. The state medical society which attempts to completely organize the physicians in its territory without recognizing these fundamental principles will fail in the future as it has failed in the past.

Holding these views, we can but endorse the plan on which the New York State Medical Association is being reorganized, for it is evident that the committee on reorganization has recognized the necessity of this broader plan in formulating its charter and organic law. According to these, the reorganized New York State Medical Association is to be the central body in which the sixty-one county associations, when organized, will unite, and through which the combined county associations will work. Its fundamental principle is fair and equal representation, leaving no chance for the formation of cliques, or a possibility of its management getting into the hands of a few. The Association has just issued a pamphlet which contains the new charter and proposed laws, together with the proposed by-laws for district and county associations, from which we obtain the following information:

The subordinate bodies of the State Association are the "district branches" and the county associations. Of the former there are five—First or Northern; Second or Eastern; Third or Central; Fourth or Western, and Fifth or Southern district branches, each including from ten to fourteen counties.

The membership is composed of resident, non-resident, corresponding and honorary members, all but the first being non-residents of the State. The active voting members are called "Fellows" and are delegates elected by the county associations annually in the proportion of one for each ten active resident members. These, as do all the officers, serve one year. They meet with the Council annually on the day preceding the regular annual meeting of the State Association, conduct the general business of the Association and elect officers.

The "Council" consists of the fifteen officers of the Association, i. e., president, vice-president, five ex-officio vice-presidents—these being the presidents of the branches—secretary, treasurer and the chairmen of the six standing committees. It is the active working body, the executive board of the Association, and during the intervals of the meetings of the larger body, manages its interests.

Members are not elected to the State Association directly, but obtain this membership through that of a district branch, or county association. To become a member of a district branch the applicant must be a resident of the district included in that branch, and of a county in which there is no affiliated association. Residents of those counties in which there is a county association must obtain their membership in both the district branch and in the state organization through membership in their own county association. When the members of any district branch, residing in one county, are ten in number they must organize a county association, and thereafter control memberships from that county. This, in brief, is the plan, which means that to become a member of the State Association the applicant must be a member in good standing of his local association, if there is one, and, if not, of the district branch, membership in the county carrying with it membership in the branch and state associations without further fee. It means the building up of the local associations. Each county and branch association elects its own officers, controls its own affairs, and makes its own laws, but these must be in conformity with the organic laws of the State Association. For the reason that

there are many counties in which there is no local association, the district associations are necessary, but whether this will be true when all the counties are organized time will tell. It is presumed that each of the district associations will now work energetically to organize an association in each county, so that, before long, it is hoped we may look for an association in every county in the State.

Two important provisions are incorporated in the charter and by-laws which have reference to what we have designated above as the "material interest" of the individual member. The first of these provides for the establishment of a death-benefit fund. Section 4 of charter is as follows:

The New York State Medical Association may, in its discretion, establish a death-benefit fund, and may include in its by-laws an article governing the establishment and distribution of the said death-benefit fund.

Whether a life-insurance department is advisable or not we are not prepared to say. We understand that a suggestion has been made that, instead of this, provision be made for creating a fund to be used for the superannuated among the members, in other words, provision for old age rather than for the dependents of a deceased member. In any event the creation of some such fund would have a good effect in two ways: the direct good for which the fund is created, and the indirect in keeping those once affiliated in active membership. One having an interest in such a fund would naturally be more liable to retain his membership than if there were no such interest to hold him.

Another excellent provision is that covered by sections 5 and 6 of Article II of the by-laws.

It shall be the duty of the Council to employ an attorney and counselor-at-law, resident in the city of New York, who shall appear in all legal matters for and on behalf of the New York State Medical Association. It shall be the duty of the Council to receive and consider all applications of members for assistance in defense of suits for alleged malpractice or other matters affecting their professional status, and all complaints of violations of the laws of medical practice and of public health; and the Council shall without delay, and with the advice of its attorney, examine the case and determine the expediency of defending such action or prosecuting the alleged violators. If the Council's decision be in the affirmative, then the New York State Medical Association shall furnish the funds and legal services necessary for the conduct of such defense or prosecution.

These provisions are of the greatest importance and will result in more material benefit to the profession than any other that could have been incorporated in the organic law. The great trouble in every state is that the medical laws have not been enforced; and those who have had experience in trying to enforce them know that this will never be done by the politically appointed or elected prosecutors. It must be done, if at all, by physicians; and as there is not a state in which they are thoroughly organized, there is not a state in which the medical laws are enforced. Our friends in Kentucky have come nearer keeping quacks out of their state than has been done in any other, and this is because a few have been well supported in every way by the many. Hence, we believe the provision made for this work in New York is destined to result in good in many ways.

The provision made for the assistance of members in the defense of suits for alleged malpractice, when justly brought, is such an excellent one that it needs only to be mentioned to be commended. The resisting of suits for alleged malpractice is as much the duty of the profession as a whole as it is that of the individual directly affected; for the success of one of these suits, either by compromise or otherwise, is liable to bring on a dozen others.

The reorganization of all state societies on a uniform basis has been proposed, but what the ideal plan would be which each state would be invited to adopt is a question which requires earnest and careful consideration. The above outlined plan, which the New York State Medical Association at its meeting this month will consider—for it has not yet been adopted by that body as a whole—has many excellent features; whether it can be made more ideal is for the future to decide.

HOSPITAL ORGANIZATION.

The method of organization of the medical staffs of our hospitals is a matter of great importance. Naturally the same plan, even though quite ideal, is not applicable to all hospitals, because their scope and nature differ greatly. In the case of those of large or medium size, whether supported by some branch of the government or by endowment, the general conditions are usually quite similar, and it would seem natural that the medical staffs were appointed and organized according to some well-considered plan which had gradually met with more or less general approval. At present, this is far from being the case. In most of our city and country hospitals the positions on the medical staffs are prostituted in the interests of practical politics. There is no reasonable certainty in the tenure of office; there is no esprit de corps in the staffs so constituted, and no successful attempt can be made to organize them into harmoniously working bodies, because of the total absence of high motive and of proper training in most of the appointees. Such hospitals are usually scientifically sterile. The limitations of the authority of the attending physicians and surgeons and of the non-medical officials are illy defined and not infrequently lead to occurrences of whose disgraceful character the least said the better. Naturally, there is but little discipline among the internes in such hospitals. Fortunately, there are institutions in which better systems prevail, and it seems that the conditions in general are slowly improving in most of the large cities.

In the hospitals maintained by endowment or by religious bodies the conditious are, on the whole, somewhat better, certainly more refined, yet in these is seen a rather low standard of organization that leaves

much to be desired. Speaking generally, the attending clinicians in both these groups of hospitals give their services free to the non-paying patients. In some hospitals this means that an attending clinician may take free charge of 50 to 75 patients for shorter or longer periods of time each year; in others, year after year. In hospitals admitting private and pay patients the opportunities for "making money" are often most inviting, especially in surgical work. Hence the fact that in some institutions the number of surgical patients greatly exceeds that of medical. The chief shortcoming of such hospitals is the lack—often absolute—of systematic scientific clinical work of general value. The spirit of commercialism prevails.

In order to improve on the present conditions certain broad general policies should be introduced into hospital management. In the first place, the appointment of hospital staffs should be taken out of politics. This needs no further explanation. The hospitals, especially the larger, should be subdivided into distinct, definite, and, within certain limits, autonomous departments or services, each with its own chief or head, assistant, or assistants, residents, and internes. In a hospital large enough to maintain two surgical departments, each should be independent of the other. Common operating-rooms, common assistants, etc., destroy individuality and hinder the development of the department as a whole. The service should be continuous and practically permanent. The fragmentary service of three months a year, or the like, is incompatible with good work. Apply the principle to other lines of activity and its absurdity is at once apparent. The chief of service should be the best available man for the position, the attainment of which under the conditions briefly outlined here would constitute in the end one of the highest honors a medical man in this country could hope to reach. The proper mode of selection could be worked out easily. The time of service of the assistants, residents, and internes should be arranged with two points in view: the greatest good of the department, and the thorough training of young men. Lastly, the principle that a servant is worthy his hire, is as applicable to hospital work of a responsible character as to any other employment. The custom that physicians should give their time and their services to the extent now prevalent here without the principle of compensation being recognized directly is not only without parallel, but directly detrimental to clinical work of a high degree. Here, we meet with the awkward complication of two spheres of work, one public or semi-public, the other distinctly private. The adjustment will work itself out with time if the principle at stake, and we believe it is a correct one, is recognized, as is the case already in a few institutions in this country and quite universally elsewhere. The affiliation of many hospitals with medical schools and with universities greatly simplifies the problem. Finally, in hospitals so organized may we hope that scientific clinical and pathological study and investigation will be carried on to an extent that speedily will increase manifold the value of the services of the hospital and that in a much larger and more broadly humanitarian sense than under the present haphazard methods of regime.

SOME SOURCES OF ERROR IN SKIAGRAPHS.

Every method of physical exploration can yield information only with regard to physical conditions, but for the establishment of the anatomic and physiologic significance of which other data will be required. It should hardly be necessary to add that the observations must themselves be in the first place above suspicion. Here, as in the application of all methods of precision, are demanded the two essentials of correct perception and equally logical interpretation, and both of these bespeak a certain foreknowledge. While the large possibilities for diagnostic usefulness of the X-rays were early appreciated, it soon became recognized that the results obtained were susceptible of varied interpretations, in accordance with the skill and the experience of the observer and the opportunities for the development of what, for want of a more convenient term, may be designated "artefacts."

Some of these sources of error are pointed out in a communication presented to the Society of Medical Jurisprudence, of New York, by Dr. Carl Beck,[1] who speaks from an extensive experience. To reduce the likelihood of error to a minimum, it should always be borne in mind that the X-rays produce only shadow-pictures, for the correct interpretation of which a thorough knowledge of the anatomic relations of the parts is absolutely essential. The density of the shadows produced will necessarily vary with the position in which the picture is taken, and, for purposes of control, the observation should be made in at least two directions. For purposes of precise localization it may be necessary to make several observations and to employ special devices. One must always first assure himself that the shadows found are not due to the presence of normal structures, even though these be at times unusual, before deciding them of abnormal origin. It is, therefore, often useful to compare opposite sides of the body under like conditions. As has been indicated, the possibility of anomalous or exceptional conditions, in themselves not abnormal, should always be borne in mind. Then, the incompleteness of ossification in the young, and the bone-changes attending rachitis, for instance, may give rise to appearances in skiagraphs simulating the results of traumatic lesions. It is further appropriately pointed out that the apparent deformity disclosed by the skiagraph is not a trustworthy index of the degree of disability. The point ever to be remembered in the employment of any and all methods of physical diagnosis is that the results yielded are in themselves not conclusive, but their

1 Medical Record, August 25, p. 283.

significance will depend on the interpretation given them, and this will be governed by a full knowledge of all the possibilities in the case.

AMBIDEXTERITY.

Dr. E. Noble Smith[1] makes a plea for the education of children in the use of their left hands interchangeably with their right, instead of as at present discouraging it. The inconvenience of having to use the left hand for all manipulations when the right happens to be temporarily disabled has been experienced by many of us and we can therefore the more readily appreciate his argument. It certainly would be an advantage if one could be equally dexterous with both hands, and the fact that some favored individuals are naturally thus endowed makes it seem possible that by education all could be made ambidextrous. We are usually inclined to believe with Sam Patch "that one man can do a thing as well as another;" why, therefore, should we all not use our left and right hands alike if we so wish? The almost universal prevalence of right-handedness, however, must have some physiologic basis, and this being the case it may not be so easy to correct the tendency. It is probable that the selection of the right or left hand for special training is a matter of custom and choice; whole nations are, like the Benjaminites of Scripture, said to be predominantly left-handed, but it is none the less the rule that one or the other hand is more dextrous and more used. Man is not a symmetrical being, his viscera are distributed according to his needs, and this fact has been used in theorizing as to the cause of the phenomenon, as noted by Smith. He does not, however, refer to the elaborate speculations of De Fleury and others on the effects of the unequal blood-supply of the hemispheres of the brain, which would appear as likely as anything else to have an influence.

A still more striking indication, as it might seem to some, pointing to the physiologic reasonableness of one-handedness, is the fact that the speech centers are almost invariably located on one side of the brain. There is, as regards the faculties of expression, a close relation between the hand and the organs of speech, and it is in this relation particularly that the inequality of the two sides is most manifested. We can learn with comparative ease to use the left hand for many purposes nearly or quite as well as the right, but it is a much more difficult task to accustom it to write, that is, at least for most of us. The fact also that children who happen to be originally left-handed are easily taught to use their right hands, but then lose their facility with the left—become right-handed instead of ambidextrous—would seem to point to an inability of the average brain to utilize both hemispheres simultaneously to the same extent. Adults who educate themselves out of left-handedness into right-handedness generally do this imperfectly, their right hands can only be approximately perfect in certain specialized movements; they rarely, if ever, become perfectly ambidextrous. Even ambidextrous—so-called—individuals have a preference, which must be based on some greater ease of use, for one hand or the other. All these facts, together with the additional one that in movements of the lower animals there is a certain degree of unilateral predominance, indicate that one-sided function is natural and due possibly to an inherent incapacity of the average brain to work both sides alike. There are still other facts in connection with aphasia that are suggestive in this connection, but they need not be considered here.

The question remains, if unilateral function is the normal condition and bilateral equivalence the rare exception, might not the attempt to educate the average individual into ambidexterity result in a lower grade of functional performance? In other words, is it in the best interests of the child to attempt to make it ambidextrous? According to Noble Smith, this is already being attempted by the school authorities of Philadelphia and it will be of interest to note their success.

1 British Medical Journal, September 1.

DIED AT HIS POST.

The death of Dr. Jesse W. Lazear, noted elsewhere, is another sacrifice on the altar of professional duty. Dr. Lazear's work in the investigation of yellow fever was such as demanded a man of his ability and qualifications, and he fearlessly devoted himself to it, rendering services that are spoken of in the most appreciative way by his superior, the head of the army medical department. If any man ever gives his life for others it is the physician who dies the victim of disease contracted at the post of duty. It is to the honor of our profession that such cases are not rare.

THE TEXAS MEDICAL LAW.

The medical examining board for the Texas judicial district including Houston, recently resigned in a body for good and sufficient reasons. While the law provides for such a board to examine diplomas and undiplomated candidates for the practice of medicine, recent judicial decisions have declared that the diplomas of any one legally incorporated institution for medical education are as valid as those of any other. Thus, the most fraudulent concern is placed on the same level as the best, and, as a defense of the public against quacks, the law is nullified. No self-respecting physician would care to hold an office the function of which is to license the diploma-holders from the Armstrong succession of chartered frauds. Hence, the board very properly resigned. The members of the other Texas boards would do well, if indeed they have not already done so, to follow their example. The Texas State Medical Association has elaborated a bill for a medical practice act corresponding in the main with those of other states that require an examination as a preliminary to the issuance of a license. It is to be hoped that it may soon become a law, and it will if the members of the medical profession in Texas do their duty and exercise the influence they possess.

THE RAW MEAT FAD.

Twenty-three men and women of Chicago, where Dowie throve and Schweinfurth sprung, have organized themselves into a "Raw Food Society" and propose to start a propaganda. The basal idea of this organization is best explained by the resolutions adopted, in which they state that it is their firm conviction that life will be lengthened, pestilence and contagious disease wiped out of existence, and men will become giants physically, intellectually and morally by abstinence from cooked food. It was never intended, said their president, "that man should eat food that has been cooked, that he should take into his system dead cells to replace the worn-out cells cast off from the body." Just how these reformers are to get along with the ordinary conventionalities of civilization in very many ways is hard to understand; perhaps, they will consistently throw civilization overboard and get along without it. At any rate, civilized man who can not do without cooks will very probably have to contrive to exist with them for some time to come. No one will object to such extremists taking their food raw if they want to, but if they make further steps toward the simian golden age and begin to do without clothes they may have to be interfered with.

MALODOROUS THERAPEUTICS.

It is not often that a sensorially very obtrusive public nuisance is defended on sanitary grounds by medical men, but such appears to be sometimes the case, if we are to trust the newspaper reports of a recent occurrence in New York. The health officers of a village on Long Island, in support of an application for an injunction by interested parties against a dumping-ground for the city's stable refuse, described it as a menace to health, with an odor permeating the atmosphere for miles around, affecting even the slumbers of the inhabitants and ineradicably abiding in their draperies and habitations. Against this strenuous denunciation the offending contractors furnished the affidavits of two presumably prominent New York physicians. One of these, said to be a specialist in nose and throat diseases, averred, it is alleged, that he had "carefully observed the effects of the exhalations and gases arising from fermenting stable refuse upon the respiratory organs and deemed them conducive to health," and that he had advised his patients to expose themselves as much as possible to such odors and gases. A member of the offending firm was perhaps one of these patients, as he claimed that he had entered the business because he had been thus advised and his health had profited. Of course, he may have only followed lay advice, for it is well known that the notion of the salutary therapeutic effects of animal ordure in one form or another is widespread in a certain class, but we have heretofore considered it only as a very vulgar superstition. Now, that it has the sanction of a learned lecturer it is to be hoped that the laboratory of his school will soon send out some published results of researches on the subject.

QUACKERY AND THE POLITICIANS.

The osteopathy propaganda, failing in any scientific endorsements that would be impressive to the public, is sending out the alleged opinions of politicians in regard to their pseudoscience. One of the latest sent out is a selection of utterances purporting to come from eleven governors and ex-governors of several states in favor of osteopathy. One of these from the governor of Missouri is superfluous; his deeds speak louder than words and he has amply demonstrated his mental idiosyncrasies. Another, however, purports to come from Governor Tanner, of Illinois, whose record is somewhat different. He is made to say: "There is no doubt in my mind that osteopathy will reach and cure many chronic troubles that medicine would have little or no effect upon." This may be sarcasm, though as such it requires a little second thought to see it, and it is not taken as such by the osteopaths. Altogether, considering his previous sensible action in this matter, we will accept it as irony. One or two others of the statements quoted, if not quite non-committal, at least do not commit their makers very strongly as partisans, and may have been merely the complaisant answers of lay politicians to requests that they did not care to directly refuse. Some, however, "slop over," to use a vulgarism, like Governors McMillan and Taylor, of Tennessee, who consider osteopathy as the epoch-making discovery of the century, and ex-Governor Altgeld, of Illinois, who poses as one relieved by osteopathy while drugs and prescriptions "were as ineffectual as empty words." It is not surprising that out of the hundreds of living governors and ex-governors of states any set of quacks or system of quackery should find a short dozen of endorsers, and, of course, they are utilized to the utmost. It would not be a bad plan if the profession would keep in mind the politicians who endorse quackery; if this were done they might not be so ready to give it their good word.

THE SERUM TREATMENT OF TUBERCULOSIS.

The paper of Mircoli, abstracted elsewhere in this issue,[1] seems worthy of at least passing comment. The striking results with so large a series of cases, nearly 3000, from the use of the Maragliano antitoxin in the different forms of tuberculosis are better shown in his tabulated statements than in our abbreviated report. Over 14 per cent. of the cures added to nearly 50 per cent. of "improved" is a good showing. When we analyze the figures further and find that the disease progressed during the treatment in only about 18 per cent., and that the disease in the cases rated as improved tends to be permanently checked, it is still better. Even in the advanced cases with cavities already formed, only in about one-third was the disease still progressive during the treatment. Besides these results, which, it must be said, were attained with the additional aid of general hygiene and dietetic treatment, the paper reports other facts of great interest. One of these is that while blood-serum of the normal individual has an antitoxic action toward the tuberculous toxins and that of the tuberculous patient has not, the latter regains this after a month or so of treatment with the Maragliano serum, thus showing that the latter puts the system into a condition to assist in defending itself. Mircoli's opinions as to tu-

1. See p. 914.

berculin are also noteworthy. He holds that it directly increases the amount of toxins already in the organism, and in tuberculous individuals it may need "only the fraction of a gram to overthrow the already unstable equilibrium." When we remember that the use of tuberculin is being advocated by some for a diagnostic purpose, these statements are deserving of careful consideration. If we accept, with Mircoli, the views of Naegeli that practically all persons are or have been infected and still carry the latent foci in their bodies, this possibility of stirring them up to activity is a very serious one. While all the views and facts contained in Mircoli's article are not new, yet it is worthy of careful attention as an important contribution on the therapeutics of tuberculosis. Something must be allowed, however, for a possible enthusiasm in such a paper, and it may be perhaps considered as somewhat of an *ex parte* view of the method.

Medical News.

CALIFORNIA.

THE SPANIARD who brought smallpox to Chico has died; another case has appeared, and quarantine has been established.

THE PASADENA MEDICAL SOCIETY, on September 11, passed resolutions commending the local board of trustees for its action in sewering the city.

OAKLAND'S death-rate for August was the lowest on record, 9.76 per thousand per annum. More than 20 per cent. of the deaths were from consumption.

DR. JUNIUS D. YOUNG, Stockton, was reappointed first assistant physician at the State Hospital, September 13. Under the new regulations this gives him a life position from which he can be removed only for cause.

THE GIBBS BUILDING, the first of the brick structures which are to replace the frame buildings of St. Luke's Hospital, San Francisco, had its cornerstone laid, September 19. The building will be 135 feet long, 44 feet wide and two stories and a basement in height.

LOS ANGELES parents are being forced to obey the vaccination law. One opponent has had his five children refused admission to school for want of certificates. The health officer is vaccinating the children by fifties and is also supplying virus and certificates to local physicians.

THE QUARANTINE OFFICER of San Francisco, who applied for a mandamus to compel the audit of his demand for salary, has had his application denied by Judge Seawell, on the ground that the duties of quarantine officer do not extend to any part of the city and county and that efficient quarantine and inspection is already maintained at that port by the United States Marine-Hospital Service.

GEORGIA.

THE CHARTER MEMBERS of the Georgia Pasteur Institute and Laboratory met in Atlanta September 21 and organized by electing the following board of directors: Drs. Charles D. Hurt, Claude A. Smith and James N. Brawner, Atlanta; Dr. Henry R. Slack, La Grange; Dr. James H. McDuffie, Columbus; Dr. St. Joseph B. Graham, Savannah; and Dr. Ernest P. Ham, Gainesville. The following officers were then elected: Dr. Henry R. Slack, president; Dr. James H. McDuffie, vice-president; Dr. Claude A. Smith, secretary; Dr. Charles D. Hurt, treasurer. The directors propose to have in connection with the institute the best equipped pathological and bacteriological laboratory in the South and expect to open before November 1.

ILLINOIS.

DR. JOHN E. TUITE, Rockford, has moved to Chattanooga, Tenn.

DR. WILLIAM R. PARKES has been appointed commissioner of health of Evanston, to succeed Dr. A. B. Clayton, deceased.

DR. HENRY HATCH and family, Quincy, sail for Europe on the *Campania* to-day. They expect to be gone some months.

THE CITY HOSPITAL is the name given to the new emergency hospital, Quincy. The health officer reported 39 deaths in the city during the month.

A SUIT for $25,000 for false detention and brutal treatment has been entered by Daniel W. Storms against the Illinois Eastern Hospital for the Insane, Kankakee, to which he was committed in 1898, and from which he was discharged "improved" July 3, 1899.

Chicago.

DR. FENTON B. TURCK has returned from Europe.

DR. MOREAU R. BROWN has returned from the South, and resumed practice. He has associated with him his son, Dr. James M. Brown.

DR. AUGUST F. LEMKE has accepted a position in the department of didactic medicine in the Northwestern University Medical School.

ILLINOIS MEDICAL COLLEGE held its sixth annual commencement at Handel Hall, September 27, when nineteen men and one woman received degrees in medicine.

DR. GEORGE F. BUTLER, of the Alma Sanitarium, will be at the Columbus Memorial Building every Wednesday afternoon until June 1 next.

THE FOLLOWING CHANGES have been made in the faculty of the Chicago Policlinic; Dr. Norval H. Pierce has taken the chair of otology; Dr. J. Rawson Pennington, that of diseases of the rectum, and Dr. Otto T. Freer, that of laryngology and rhinology.

ON THE PETITION of the attorney-general, Judge Haney issued an injunction on September 27, restraining the officers of the Metropolitan Medical College from conducting its business in violation of the terms of its charter. The court is also asked to dissolve the corporation, which is declared to have conducted a fraudulent business and abused and violated its charter since its organization, in 1896. The basis of the petition is the allegation that the college, while advertising itself to be a legitimate institution, did not require the attendance of applicants before conferring on them the degree of doctor of medicine.

HEALTH DEPARTMENT.

THERE has been such a remarkable decrease in the prevalence and in the mortality of the contagious diseases since June 1 that the department has made it the subject of special study. Up to the close of May the aggregate number of deaths from the two typical contagious diseases, diphtheria and scarlet fever, was very nearly the same as for the corresponding period of last year, namely, 584 in 1899 and 557 in 1900. Between June 1 and September 22 these deaths numbered 320 in 1899 and 191 this year—a decrease of 109, or more than 34 per cent. in the last four months. The reduced prevalence of the contagious diseases is shown by the decreasing calls for disinfection. During the first five months of this year 2665 disinfections were called for, as against 1704 in the corresponding period of 1899, an excess of 36 per cent. this year. Since June 1 the proportions have been nearly reversed, 759 this year and 1099 last year, or 31 per cent. fewer.

THE HEALTH COMMISSIONER has received a report from Mrs. Clara Doolittle, sanitary inspector, which shows that there are more than forty asylums in Chicago where babies are taken care of for a consideration. She condemns the manner in which most of these "baby farms" are conducted and believes that some regulation of the system should be required whereby none but suitable persons should be in charge, and a limitation would be placed on the number of children in an asylum. By these means, properly enforced, the present extremely high death-rate might be reduced materially.

The total mortality for September, despite the unusually trying weather of the month, was only slightly in excess of that of September, 1899. The uncorrected total of deaths reported up to midnight of September 30 is 1885—being 63 more than for the month last year and 94 more than the aver-

age September mortality of the previous five years. During the closing week of the month 458 deaths were reported—an excess of 18 over the previous week and of 43 over the corresponding week of 1899. The excess is mainly among infants and children, to whom the recent sudden and extreme changes of temperature have proved particularly trying. To these changes is to be attributed the increased mortality from the acute intestinal diseases, and not to the character of the water-supply. With the solitary exception of the samples collected on the morning of September 25 the water has been continuously usable or good for 23 days. The results of this good quality of the water are seen in the lowest typhoid-fever mortality for any September in fifteen years. The death-rate for the week ended September 29 was 14.05 per thousand. Of males 254, females, 204; infants under 1 year, 116; between 1 and 5 years, 66; and over 70 years, 78 died. The principal causes of death were: Acute intestinal diseases, 90; consumption, 49; heart diseases, 33; nervous diseases, 29; pneumonia, 27; violence, 17; cancer, 16; Bright's disease, 16; convulsions, 15; diphtheria, 14; bronchitis, 13; typhoid fever, 9, and suicide, 9. During the week 570 births were reported. In the laboratory 340 samples of milk and cream were examined, 8.29 per cent. of which were below grade.

INDIANA.

DR. JOHN E. OWEN, Evansville, was seriously injured in a runaway accident, September 24.

THE CENTRAL COLLEGE OF PHYSICIANS AND SURGEONS, Indianapolis, began its twenty-second annual session September 20.

DR. CHARLES HOLTZENDORFF, Plymouth, has returned, after a summer spent in his old home in Germany.

DR. ROBERT N. C. COOK, Boswell, was married to Miss Gertrude L. McClure, a trained nurse, of Vincennes, at Spencer, August 18.

DR. WILLIAM B. MCDONALD, New Augusta, suffered fracture of two ribs and injuries to the left leg and head in a runaway accident September 19.

DR. THEODORE A. HOCH, Michigan City, has gone to Worcester, Mass., to enter on his duties as house physician at the Massachusetts State Insane Asylum.

THE MEDICAL COLLEGE OF INDIANA, Indianapolis, held its entrance examination for freshmen September 25, and the fall term opened on the following day.

PROF. GEORGE W. HUFFORD, principal of Shortridge High School, Indianapolis, has been appointed by the State Medical Board of Examination and Registration to act as examiner of the literary qualifications of applicants for admission into the freshman classes of the local medical colleges.

IOWA.

THE NEW $10,000 addition to the Dallas County Hospital, near Adel, is now completed and ready for occupancy.

TWO HOSPITAL PROJECTS are under consideration in Waterloo. The first contemplates the establishment of a general public hospital open to patients of all qualified physicians and governed by a lay board of trustees. The second scheme is the formation of a stock company, composed of physicians, to build and equip a hospital. Between $5000 and $6000 has already been pledged in stock subscriptions.

KANSAS.

DR. O. PORTIS DAVIS, Topeka, was married on September 19 to Miss Mabel Glendennning, also of Topeka.

DRS. M. R. MITCHELL AND C. HAMMOND, Topeka, have opened a hospital in North Topeka called "Riverside Hospital and Maternity."

DR. JOSIAH P. LEWIS has been made professor of gynecology in Kansas Medical College, Topeka, in succession to the late Dr. S. E. Sheldon.

DR. S. B. CHILCOTE, on account of failing health, has sold his practice in Onaga to Dr. Frank W. Randall, Wheaton, and expects to settle in California or the South.

THE KANSAS STATE BOARD OF HEALTH has declared war on the Independent Medical College of Chicago, and will not permit those holding its diplomas to practice in the state.

PLANS are now in the hands of local contractors for the erection of a large private hospital in Ellsworth, to be owned and operated by Drs. Henry Z. Hissen and H. O'Donnell, of Ellsworth.

MARYLAND.

DR. CHARLES F. DAVIDSON will move from Queenstown to Easton.

THE BOARD OF HEALTH of Baltimore County met at Towson September 20 and discussed the quality of vaccin virus supplied to the vaccinating physicians, received reports of seven cases of diphtheria and decided that the secretary should receive the fee of 20 cents for the registration of each birth and death in the county.

Baltimore.

DRS. WILLIAM OSLER AND THOMAS C. GILCHRIST have returned from Europe.

DR. B. MERRILL HOPKINSON was re-elected president of the Atlantic Association of the Amateur Athletic Union at Philadelphia on September 17.

THE BALTIMORE UNIVERSITY opened October 1 with an address by Prof. J. A. Melvin on "Medical Folk Lore."

THE WOMAN'S MEDICAL COLLEGE opened October 1 with an address by Prof. Claribel Cone.

DR. G. MILTON LINTHICUM, professor of physiology and rectal surgery in the Maryland Medical College, who has been studying abroad, will return to his duties this month.

DRS. JOHN RUHRAH AND MELVIN S. ROSENTHAL, who served as resident and assistant physician, respectively, at the local quarantine station, are in Europe pursuing studies in their specialties, internal medicine and skin diseases.

MARYLAND MEDICAL COLLEGE opened for the fall session September 17. Prof. Richard L. McNeer made the introductory address. Dr. Harry Gross has been appointed professor of operative and clinical surgery and Dr. Ernest E. Quandt professor of chemistry and toxicology.

THE BALTIMORE MEDICAL COLLEGE opened on the evening of September 27 with an address by Prof. William E. Moseley on "Medical Education from the Standpoint of the Unendowed Medical College." Dr. J. M. H. Roland has been made professor of obstetrics. Mr. Archibald H. Taylor has resigned the chair of medical jurisprudence and has been succeeded by State Senator Olin Bryan.

MICHIGAN.

THE FALL TERM of Saginaw Valley Medical College, Saginaw, commenced September 19. The addresses of welcome to the new students were delivered in the college auditorium.

DR. K. H. MALLARIAN, a recent graduate of the Detroit College of Medicine, was refused admission to his native country, Armenia, by the Turkish authorities because he had become an American citizen, and has returned to Detroit.

THE TRIAL of "Dr." Haley, at Niles, for the illegal practice of medicine resulted in the ex-brakeman being fined $25 and costs. The defendant is said to have left town to avoid serving 30 days in jail in default of payment of the fine imposed.

MINNESOTA.

THE BOARD OF CONTROL of the City Hospital, St. Paul, has accepted the offer of Dr. Mabel Austin, mentioned in the last issue of THE JOURNAL, and has appropriated $300 for the equipment of the bacteriological laboratory.

THE COLLEGE OF MEDICINE AND SURGERY of the University of Minnesota, Minneapolis, opened its school year, September 25. At an informal meeting on the previous evening in the amphitheater, Dr. Richard O. Beard, dean of the college, spoke upon "The Hospitality of Scientific Medicine."

DR. JOHN B. BRIMHALL, St. Paul, secretary of the State Board of Medical Examiners, is investigating the death of a patient from appendicitis who was under treatment by an unlicensed physician for a trivial complaint. He intends to prosecute the unlicensed practitioners of medicine in the state to the full extent of the law.

MISSOURI.

DR. C. LESTER HALL, Kansas City, has been sued for $15,000 because, as the petition relates, he set a broken leg, and when it healed, it was shorter than the other.

FOUR CASES of suspected smallpox were reported in one block in Kansas City, September 24.

THE ECLECTIC MEDICAL UNIVERSITY, Kansas City, has been ordered by Judge Henry, of Independence, to issue a diploma to Minnie B. Lang, who had paid her fees, taken her course and complied with all legal requirements. As the state board of health had instructed this college to issue no diplomas until spring, it remains to be seen what the board's action will be when this diploma is presented with a request for a license to practice.

NEBRASKA.

THE OMAHA MEDICAL COLLEGE held its opening exercises September 25. Dr. William B. Ely, Ainsworth, delivered the address.

DR. HOWARD M. CASEBEER, Lincoln, has been appointed first assistant superintendent of the State Insane Asylum, to succeed Dr. Dearing, transferred to the superintendency of the Institute for the Feeble-Minded, at Beatrice.

CREIGHTON MEDICAL COLLEGE, Omaha, began its seventh annual session, September 24. The opening address was made by Dr. Frank E. Sampson, Creston, Ia., on "The Evolution of Medicine."

NEW JERSEY.

THE WOMEN of Asbury Park are trying to raise sufficient money to build and equip an isolation hospital for contagious diseases.

THE FRIENDS and relatives of Dr. George Yardley Taylor have been apprised of his death in China. He was massacred in Pao-Ting-Fu with the Hodges and Simcoxes. Dr. Taylor was a graduate of the University of Pennsylvania and formerly resided at Burlington.

MEDICAL INSPECTION of schools is now proposed for Newark and Paterson. In the former city it is estimated that the cost will not exceed $1500 per year. Under the law any board of education is empowered to employ medical inspectors, fix their salaries and define their duties.

NEW YORK.

APPLICATION has been made to the State Board of Charities by the Herkimer Emergency Hospital, for permission to incorporate.

THE CORNING HOSPITAL received 47 patients during the first three months of its existence. The attending surgeon for the coming quarter will be Dr. Charles W. Hayt; attending physicians, Drs. John L. Miller and Willis S. Cobb.

A HOSPITAL is to be erected in Johnstown, by Alden M. Young, New York City, who has already donated twelve lots on Pennsylvania avenue for the building. The hospital, when finished, will be presented to the city.

DR. EDWARD A. PARKER, Brooklyn, has been appointed junior assistant physician at the Long Island State Hospital, and Dr. James L. Devlin, Sonyea, medical interne at the Manhattan State Hospital.

VIOLATORS OF QUARANTINE in Rochester will be liable to a year's imprisonment, or both, in virtue of a section of the code which provides this punishment for violation of any rule lawfully passed by a health board. The attorney for the health department gives warning that this law will be enforced rigidly.

THE ALBANY MEDICAL COLLEGE resumed its sessions, September 26. The introductory lecture was delivered by Dr. Hermon C. Gordinier, Troy. Dr. Andrew MacFarlane has been made adjunct professor of medical jurisprudence and physical diagnosis, and Dr. Arthur G. Root, clinical professor of diseases of the throat and nose.

ZETA PHI, Syracuse, was announced in THE JOURNAL of September 15, page 697, as the first and only medical sorority in the country. In this our informant erred, and in a recent letter asked that the correction be made that a medical sorority had existed in the West for some time. From another source we learn that the Alpha Epsilon Iota "fraternity" was organized in 1890, with chapters in several universities.

THE SARATOGA COUNTY MEDICAL ASSOCIATION was organized at Saratoga Springs, September 28. The Code of Ethics of the American Medical Association was adopted, and a resolution was passed requesting to be admitted to the New York State Medical Association as a subordinate county association. The officers elected were: Dr. F. J. Sherman, president; Dr. G. F. Comstock, vice-president; Dr. J. T. Humphrey, secretary; Dr. W. E. Swan, treasurer.

NEW YORK STATE MEDICAL ASSOCIATION.—The approaching meeting promises to be one of unusual interest. It will take place on October 15 to 18 in the Academy of Medicine building, New York City. Considerable interest centers in the meeting of the Council and Fellows on October 15, at which time the committee on reorganization will make its report. There will be a symposium on "Obstetrics," one on "Blood," with lantern slide exhibition, and another on "Special Surgical Tuberculosis." Many prominent men from out of the state, as well as from the state itself, will take part.

Buffalo.

THE MEDICAL DEPARTMENT of the University of Buffalo opened its fifty-fifth session September 24. Dr. Eugene Smith, the speaker of the evening, discussed the ethical and intellectual advantages to a city and community to be derived from a university. Dr. Frederick Busch succeeds Dr. Julius Pohlman as professor of physiology.

New York City.

DR. EMIL MAYER has been ill with typhoid fever for the past five weeks, and is still in a serious condition.

THE BROOKLYN HEALTH BOARD has made complaint against Dr. Henry W. Haskell for failing to report a case of consumption, as required by the law, which went into effect two years ago, but until now has not been enforced.

BECAUSE he turned out a consumptive patient from the Metropolitan Hospital, Blackwell's Island, Commissioner John W. Keller suspended the superintendent, Dr. Clyde E. McDonald, for thirty days. This was done notwithstanding the statement by the acting superintendent that the hospital was overcrowded and it was necessary to let the man go.

A HOME for convalescents is to be established at Yonkers. Adrian Iselin, of New Rochelle, has purchased the old Hartley homestead, a pretentious colonial mansion in the outskirts of the city, and has set about remodeling it so as to provide proper accommodations for about 150 convalescents. When completed, the house will be a three-story stone structure, having a piazza on three sides, and surrounded by extensive grounds.

AN INTERESTING CASE of acute general emphysema has been recently observed at the Harlem Hospital. The patient was a man who had fallen from a five-story building and fractured three ribs. The fragments of bone penetrated the lung, and thus opened a channel through which the air could escape from the lungs into the cellular tissue. Within three hours the man had swollen to an enormous size, and the skin was very tightly stretched over the inflated tissues. Temporary relief was afforded by incision and massage.

THE OBSEQUIES over Dr. Lewis A. Sayre were held Sept. 23 in Grace Church. Members of the medical profession and numerous lay friends crowded into the church to pay their last homage. The coffin was decorated with large floral pieces from the faculty of the medical school with which Dr. Sayre had been so long connected, and upon his breast were pinned some of his treasured decorations. The interment was in Trinity Cemetery. Dr. Sayre's will, which was filed for probate on the 25th, disposes of an estate of $50,000 in real and $3430 in personal property. The old family residence at 285 Fifth avenue will go to his two surviving children, Dr. Reginald H. Sayre and Mary Hall Sayre. He leaves to his son his medical books, instruments and specimens, and his insignia of the Order of Wasa, given him by the King of Sweden.

AT A SPECIAL MEETING of the executive committee of the New York County Medical Association, held September 24,

1900, the following resolutions were unanimously adopted: Whereas, it is our sad duty to announce the death, on September 21, 1900, of our late associate, Dr. Lewis Albert Sayre, one of the founders of THE AMERICAN MEDICAL ASSOCIATION, and its president in 1880; therefore, be it resolved, that we place on record our high appreciation of the valuable services which he has rendered to medicine and surgery during his long and useful life; resolved, that his daring originality, his freedom from surgical traditions, along with his unflagging enthusiasm and interest in everything pertaining to his beloved profession, constituted him a teacher of rare excellence, whose pupils will cherish his memory long after the voice of their preceptor is hushed; resolved, that we extend, in the name of the members of the New York County Medical Association, our heartfelt sympathy to the afflicted relatives, and direct that a copy of these resolutions be sent to the family and to the medical journals.

THE STATE BOARD OF CHARITIES has made public a report by Dr. Robert W. Hill of his inspection of the hospitals and almshouses of the city. He urges that increased and better accommodations be provided in most of the institutions visited, and calls special attention to the lack of adequate protection against fire. He complains that there is a lack of provision for helpless and crippled children, these unfortunates being left wholly without accommodation except what may be provided by private charities. He is in favor of utilizing Blackwell's and Randall's islands permanently for the city's charitable institutions, adding that Blackwell's island is not the most suitable place for a prison. The isolation of consumptives in the City Hospital is advised. As was to be expected, he characterizes Harlem and Fordham Hospitals as utterly inadequate and unsuitable for the work they are required to do. Concerning Bellevue Hospital, the report says: "There can be no doubt that from foundation to roof it is full of the germs of disease, and this in spite of all the efforts of science to dislodge them." He thinks the old hospital should be torn down and replaced by a modern structure worthy of New York City. He suggests that, in connection with the out-door department, a bureau be established for the enrollment of applicants for work in the hospitals. This would secure a better class of help, and at the same time give needed aid to many of those discharged from public institutions.

THE WATER FAMINE in New York City threatens to assume serious proportions. Malaria and typhoid fever are reported as being rapidly on the increase in the Borough of the Bronx, and already there are forty fever patients in the Fordham Hospital. This hospital, which is situated on Fordham Heights, has felt for some time the full force of the scarcity of water. A few weeks ago it was reported that a surgical operation had to be deferred until evening because no water could be obtained at the hospital. For a week past not a drop of water has been drawn in the hospital buildings or on the grounds, and the needs of this institution have been met only by establishing a bucket brigade and bringing the water from a hydrant in the valley, half a mile distant. The hospital will soon have no room for more patients, and, in any case, if some relief is not obtained quickly from the water department, it will be compelled to close its doors. The water famine is equally serious in the Borough of Brooklyn.

OHIO.

THE TOLEDO MEDICAL COLLEGE opened on September 27. Rev. F. D. Kelsey made the annual address.

DR. CHARLES O. PROBST, secretary of the State Board of Health, sailed for the United States September 16.

TWO CANTON PHYSICIANS, Alonzo B. Walker and Austin C. Brant, have returned from an extended trip on the Continent.

DR. JOSEPH F. FOX, New Philadelphia, has returned after a two months' absence, spent chiefly in study in London, England.

DR. DARLINGTON J. SNYDER, Columbus, has been selected as the incumbent of the chair of psychologic medicine recently established at the Ohio Medical University.

EXAMINATIONS for the freshman classes of the medical colleges of the state were held in Columbus, September 25, 26 and 27, by Profs. E. W. Coy, Cincinnati; Edward L. Harris, Cleveland; H. J. Eberth, Toledo, and Charles E. Albright, Columbus, the examiners appointed by the State Board of Medical Registration and Examination.

THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS opened its fortieth annual session in its new building, September 19. Addresses were made by Rev. John B. Hillman and Dr. Charles B. Parker, dean of the college, who gave a historical review of the college and university.

THE CLEVELAND MEDICAL SOCIETY passed the following preamble and resolutions brought before it by the committee on hygiene: Whereas, a resolution has been introduced into the school council providing for the appointment of three medical inspectors of buildings, such inspectors to be appointed by the director of schools; and, whereas, such inspection properly belongs to the department of hygiene already established and in operation for five years, and is essentially a function of the educational rather than the executive department of the schools; resolved, that we, the members of the Cleveland Medical Society, hereby recommend that the school council give to the supervisor of hygiene a sufficient number of medical assistants, not less than two, to enable the department to more effectively conserve the health of teachers and pupils by giving more frequently practical instruction in all matters pertaining to hygiene and by more frequent and thorough inspection of the physical condition of the children and of the condition of the buildings as to heating, lighting, ventilation, cleanliness, particularly of closets, and the like.

Cincinnati.

DR. EDWIN W. MITCHELL has returned from a three-months' trip in Europe.

THE DEATH-RATE for the week ended September 22 was only 10.40 per thousand. The total number of deaths was 91, of which 86 were white and 5 colored; 16 were over 65 years of age, and 16 were under 1 year; 50 females and 41 males. There were 11 deaths from violence.

THE PLAN of obtaining filtered drinking water for the use of public school children will be tried first in the new school buildings, numbering about a dozen. This plan has been used in the city hospital for several months with great success and without additional expense. It is purposed eventually to supply all school buildings with filtered, previously sterilized water.

PENNSYLVANIA.

DR. WILLIAM W. KEEN returned September 25 from Europe.

THE NEW hospital for the insane at Woodville was opened September 26.

MAJOR GEORGE H. HALBERSTADT, Pottsville, brigade-surgeon, N. G. Pa., was shot at from ambush September 29 while on duty near Shenandoah, but fortunately was not wounded.

DIPHTHERIA is still prevalent in Carlisle, and on September 24 two more houses were quarantined on account of the disease. The outbreak is attributed to a polluted spring.

TYPHOID FEVER is said to be more prevalent than usual at Stowe, a suburb of Pottstown. On examination of the water obtained from a well it was found to be polluted and has been condemned.

DIPHTHERIA is still prevalent in Carlisle, and on September district of Millville, near Altoona, and the State Board of Health has been asked to control matters there. Fourteen cases were found on that day, making a total of 32 cases so far reported.

A COMMITTEE of the board of trustees of the State Hospital at Fountain Springs laid before the State Board of Charities the plans for the proposed addition to the hospital. They hope to secure an appropriation of $50,000 for the purpose from the next legislature. The addition is urgently needed, as the hospital has been overcrowded for several years.

SUPERINTENDENT LANCE, of the Spring Brook Water Company, was, on September 28, arraigned before Mayor Nichols, of Wilkesbarre, on the charge of supplying impure water to the citizens of that place. The city ordinance provides for a fine of $100 a day when impure water is allowed to run through the mains. Dr. Walter Davis, the city inspector, had pronounced the water unfit for domestic purposes.

Philadelphia.

DR. W. W. KEEN has returned from his trip to Europe.

DR. HARRY W. CATTELL has gone to Europe for a few weeks vacation.

THROUGH THE BEQUEST of Emmeline Macurdy, who died at Mt. Holly, N. J., recently the sum of $5000 has been left the Episcopal Hospital.

DR. HORATIO C. WOOD, who has been for the past three months in Japan, arrived home on September 24, bringing with him a large collection of curios.

THE PRESIDENT of the Free Hospital for Poor Consumptives reported that during the first six months of the year, 116 patients were cared for, at an expense of $4584.97. It now has 31 patients under its care.

THE FALL SESSIONS of the Medico-Chirurgical and of the Women's Medical College have begun. At the Women's Medical College the chair of surgery has been divided into surgery and clinical surgery.

THE NUMBER OF DEATHS which occurred during the week ended September 29 was 347, a decrease of 9 over that of last week and is less than the corresponding periods of the last three years. The principal causes of death were: Apoplexy, 14; nephritis, 31; cancer, 19; cholera infantum, 12; tuberculosis, 51; heart disease, 19; pneumonia, 12; peritonitis, 6; septicemia, 5; and diphtheria, 10.

JEFFERSON MEDICAL COLLEGE opened on October 1. The total enrollment shows an increase of 100 over that of last year and makes a total of 700. The principal addresses were delivered by President William Potter and Prof. Francis X. Dercum. Only one change has been noted in the faculty, that of Dr. H. F. Harris, who was formerly associate professor of pathology, but has resigned to accept the chair of pathology in the Atlanta (Ga.) Medical College.

VICTOR B. HALL, of London, Ont., has been on trial in that city, charged with causing the death of a woman by withholding from her medicine which should have been given during her last illness, but was finally acquitted. He formerly lived in this city, was the founder of what is known as "The Vital Friends," and was known in his neighborhood as the "Doctor of Vital Science." According to his teaching all diseases are due to indiscreet eating, and can be cured by a proper diet.

THE UNIVERSITY OF PENNSYLVANIA opened its one hundred and sixtieth annual session on September 28. The medical department began its session on October 1. Several changes have been made in the faculty since the last term: Dr. William J. White becomes John Rhea Barton professor of surgery; Drs. Edward Martin and Charles H. Frazier become professors of clinical surgery; Dr. J. Francis Walsh has been appointed prosector to the professor of anatomy; Drs. Brooke M. Anspach, instructor in clinical gynecology; Collins C. Stewart, demonstrator of physiology; Richard M. Pearce, demonstrator of pathology, and William F. Hendrickson and Frederick H. Howard, assistant demonstrators of pathology. A new system of instruction has been inaugurated in the first and second year classes in both the medical and dental departments. Under the new system anatomy will be taught the first year, while the whole of physiology will be completed in the second year. Materia medica and therapeutics, which were formerly taught in the first and third years respectively, will be changed so that materia medica will be taken up in the second year, and therapeutics the third year.

PROFESSOR JOSEPH LEIDY, the celebrated anatomist and naturalist, was especially famous for his skill in the study of animal parasites. His discovery in 1846 of the trichina spiralis in the hog, and the subsequent association of the disease now known as "trichinosis" with this infected pork, brought him an international reputation as a helminthologist. A consequence of this was a large correspondence from all parts of the country in regard to parasitic worms. His correspondents were not always careful and trained observers, and though considerably annoyed, he was at the same time greatly amused by some of the "specimens" sent to him for diagnosis. At one time he was sent a peculiar "worm" vomited by a child in Washington, D. C., that proved on examination to be the undigested fiber of an orange. A particular instance of his ready wit is seen in the following anecdote: Some years ago he was sent a specimen, believed to be a segment of a tape-worm, that had been passed by a woman with a history of progressive emaciation, and who had not improved under feeding with highly nutritious foods and juices, and the administration of tonics. Dr. Leidy sent word that the segment passed was that of a tape-worm, but of an unusual type, and, moreover, that it was more than likely that the physician himself was responsible for the lodgment of the parasite. This most extraordinary statement brought a speedy visit from the physician in question. Dr. Leidy explained that the parasite resident in the bowel of the patient was of the species *tænia saginata*, which commonly infests beef, and he had inferred that the most likely mode of infection in the case was in the administration of the juice of raw beef, which was commonly prescribed to invalids at that time. The physician at once acknowledged the truth of Dr. Leidy's supposition, and never ceased paying tribute to his keen wit.

TEXAS.

THE SITUATION at Galveston has so improved that the State Board of Health, which has been in almost continuous session, adjourned indefinitely September 21.

THE DALLAS POLYCLINIC AND UNIVERSITY has been incorporated by Drs. Samuel E. Milliken, Jesse B. Titterington and Lawrence Ashton, with a capital stock of $3000. The object is the establishment of a school of medicine and surgery, and a dispensary.

DR. LEVINGSTON L. SHROPSHIRE, San Antonio, proposes to remove the debris from Galveston, by pressing 2000 convicts into the work, who, he says, can do as much work as 5000 ordinary laborers. Meanwhile, convictless, Galveston is being cleaned.

ARRANGEMENTS have been perfected for the immediate repairing and refurnishing of the medical college at Galveston, recently injured by the storm. The session will be opened Thursday, November 15, and will close Saturday, June 29, 1901. A careful consideration of the situation enables the Board of Regents to announce that the college will be opened on the above-named date with the same faculty as heretofore.

WISCONSIN.

THE WASHBURN HOSPITAL is nearly completed and will soon be ready to receive patients.

SMALLPOX is reported to exist in epidemic form in six of the large lumber camps in the northern part of the state.

THE HOSPITAL at Merrill was opened September 22 under the direction of Dr. Michael Ravn, and was filled with patients on the first day.

MENASHA is threatened with an epidemic of diphtheria. On September 26, 7 new cases were reported. During the previous month 17 cases with 13 deaths occurred. Oshkosh also fears an epidemic of diphtheria.

THE HOSPITAL built by Dr. Horace M. Brown, Milwaukee, has passed into the hands of the superintendent of the Wisconsin General Hospital. It will be repaired, equipped and opened as a general hospital.

THE MADISON HOSPITAL ASSOCIATION has decided to accept the offer of Mrs. Wayne Ramsay of a tract of four acres at Greenbush, for a new city hospital. The offer is conditioned on the erection of a hospital within two years. The directors are now making efforts to raise the $10,000 required for the construction of the building.

Osteopaths in Milwaukee have been arrested on warrants sworn out by the assistant district-attorney, acting under instructions from the State Board of Medical Examiners. The charges preferred are the unlawful use of the title of doctor and the practice of medicine without a license from the state board. The osteopaths propose to contest and make this a test case.

CANADA.

The Provincial Board of Health of British Columbia has issued a proclamation to the profession in that province regarding precautions to be taken in connection with the introduction of bubonic plague. It requires all physicians to notify their city and municipal health officers of any and every disease appearing among Chinese and Japanese residents, within six hours from the date of call.

Reporting on the offer of the National Sanitarium Association of $20,000 toward a free Consumption Sanitarium for Toronto if the city would contribute an equal amount, Dr. Sheard has advised the board of health to recommend to council its acceptance, provided the municipal act is complied with.

The Provincial Board of Health of the province of Quebec has taken prompt measures to offset any probability of the plague reaching and obtaining a foothold in that province, from Glasgow or elsewhere. Five hundred bottles of antipest serum have just been received from the Pasteur Institute at Paris. All vessels that can not produce a clean bill of health, or where anything suspicious is noted, will be detained at Grosse Isle until twelve days have elapsed from the time at which they set out from the port of embarkation.

During the progress of the meetings of the Canadian Conference of Charities and Correction, which assembled in Toronto the past week, Dr. Gilbert Gordon, president of the Toronto Medical Society, read a paper on the "Treatment of Inebriates," giving a very lucid description of the proposed legislation to be introduced into the Ontario legislature at the coming session. The details of this measure have already appeared in the columns of The Journal. At the conclusion of this convention, three medical men were elected to prominent offices therein: Dr. W. L. Herriman, Lindsay, president; Dr. A. M. Roseburgh, Toronto, Secretary; and Dr. J. T. Gilmour, Warden of the Central Prison, Toronto, chairman of the executive committee.

Dr. Montizambert, director-general of public health, has returned to Ottawa after an extended trip of inspection to Dawson, British Columbia and other points West. He will at once take charge of the situation created in Canada by the existence of bubonic plague in Glasgow. Referring to his tour of the Yukon and the West, which was taken to inspect the quarantine stations in British Columbia and along the United States boundary line, as well as to report on the outbreak of smallpox at Dawson, he says he found seven cases of the latter disease quarantined down the river from Dawson, and that there had not been reported a single new case since July 20. On his return to the Pacific province from the Yukon, he inspected the quarantine station at William's Head, which he found thoroughly equipped. The medical officers along the frontier of the tier of northern states from Montana westward, he found had been exceedingly vigilant in keeping out of Canada suspected cases of smallpox, so much so, that in his opinion, inspection of incoming trains was now no longer necessary.

FOREIGN.

The Leopold Order of Knighthood has been conferred on Prof. R. Chrobak, of Vienna.

Professor Gegenbaur of Heidelberg is to retire in April. Max Fürbinger, now at Jena, has been appointed his successor.

Krafft-Ebing, of Vienna, and Eulenburg, of Berlin, editor of the *Deutsche Med. Woch.*, each celebrated his sixtieth birthday in August.

Dr. C. L. Schleich, the inventor of infiltration anesthesia, has been placed in charge of the Gross-Lichtenfelder Hospital at Berlin, with the title of professor. He has never been connected with the faculty before.

Max Nitze, the inventor of cystoscopy, has been appointed to the newly created chair at Berlin of diseases of the urinary passages. This is the first time that urology has been thus distinguished at a German university.

A meeting of over a hundred members of the Italian legislature was held recently at Rome with Bacelli presiding, and resulted in the determination to erect people's sanatoria for consumptives in different parts of the country, all to bear the name of King Humbert and be under the special patronage of Queen Margherita. A committee of thirty members was appointed, which set to work at once to carry the resolutions into effect.

The survivor of the united twins illustrated in The Journal of September 16, 1899, has been taken to Europe. As mentioned recently, Chapot-Prevost performed the operation to separate the xiphopagi, which Alvaro Ramos had declared impossible, when, on incision, he found that the twins had but a single liver between them. One of the twins died a few days after the separation. The operation had been preceded by a long systematic constriction of the uniting tissues as a preliminary measure.

Female medical students have been admitted to the German universities this year and 618 have attended the lectures, but only nine have thus far entered as regular students. The women are even favored above the men at present, as certain work at a foreign university is credited to them in the state examinations. In Austria the authorities have decided to admit women also, on the same terms as men in every respect, with the new scholastic year. Among the 850 students at Zürich, 214 are women and 128 of these are studying medicine.

None of the personnel of the seven Red Cross ambulances sent into the haunts of malaria in Italy have contracted the disease, owing, it is supposed, to the precautions against mosquitoes. They have had occasion to treat 1772 patients, including 1329 with malaria, in their rounds through the Roman Campagna and Tuscan Maremma, where the workmen have been gathering in the harvest. The experiments instituted on three railroad lines have been equally successful in proving that protection against mosquitoes is practically synonymous with immunity against malaria in most cases.

LONDON LETTER.

INVESTIGATION OF TYPHOID FEVER AND DYSENTERY IN SOUTH AFRICA.

The government has dispatched an important commission of experts to investigate the nature, cause and prevention of dysentery and typhoid fever, which has been so fatal among the soldiers in South Africa. The commission consists of Dr. W. J. Simpson, professor of hygiene in King's College, London; Professor Notter, of Netley, and Major Bruce, R.A.M.C. Professor Simpson is a distinguished Aberdeen man, of which town he was medical officer of health for five years. His attainments as a sanitarian speedily became known, and he has served on several important commissions. In 1883 he went to Egypt and reported to the government on the cholera epidemic. In 1886 he was appointed medical officer of health for Calcutta, a post which he held with conspicuous success for eleven years. The government, against the advice of Sir Walter Foster, in the first instance refused to appoint a sanitary commission to assist the army medical staff in the prevention of epidemics in the South African campaign, but has now appointed one to investigate the epidemic which has been so extensive and so disabling to the troops.

THE GLASGOW PLAGUE.

There are now 24 cases of plague in hospital, and 2 suspected cases, and 28 persons are being kept under observation. Three deaths have taken place in hospital and 3 outside. The local government board have issued an order requiring the imme-

diate notification to the local sanitary authorities of all cases of plague which may occur in England. The order also requires the sanitary authorities to send circular letters to all the medical practitioners in their respective districts informing them of their duties under the regulations, and it imposes on every medical officer of health the duty of forthwith reporting to the board any case of plague notified to him. The Dublin corporation, as a precaution against the plague, have established an isolation hospital at some distance from the city. It is fitted up with 24 beds, which can easily be increased to 100. As to the progress of the Glasgow outbreak from September 10 to 14, no fresh cases occurred. Then on the 15th a fresh case occurred in a ward-cleaner in the hospital. On September 17, 5 other cases were reported. Four of these occurred in a family which had been in contact with previous cases, and the patient in the fifth was the wife of a worker in the hospital. Yersin's antiplague serum has been used and appears to have had a distinctly beneficial effect. The dose was 40 c.c. subcutaneously injected. All the cases seem to have originated from those which occurred first in one house, but whence the contagion has been derived is still a mystery.

THE HOSPITAL COMMISSION.

Very important evidence has been taken by the hospital commission in South Africa. Sittings have been held at Bloemfontein, where General Kelly-Kenny paid a tribute to the conduct of the orderlies, who did a great deal of work in addition to their own. They even carried a number of Boer wounded across a river, wading up to their arms, which was a purely voluntary service. The most important evidence was that of the commander-in-chief, Lord Roberts. He said that on entering an unknown, sparsely populated and hostile country, it was absolutely necessary to take large food-supplies, and the number of mules and horses and the amount of forage for these were limited. Rapid movement was possible only by cutting down the equipment of the field hospital and other details, as every day's delay put more heart into the enemy. The whole question was one of limitation of transport and the first consideration was the supply of food and ammunition. In Bloemfontein everything possible was done for the care of the sick and an unlimited order was given to commandeer everything obtainable. The enormous difficulties were shown by the fact that from March 13, when Bloemfontein was reached, till March 28 not a single truck was able to cross the Orange River. For 16 days, therefore, there were no supplies, and but few medical comforts. From March 29 till April 7 the trucks sent to Bloemfontein were 105 less than the number required to supply the food actually necessary. The troops were only just fed, and not one day's reserve was accumulated. At Kroonstadt everything obtainable was commandeered, and ladies came crying that mattresses and beds were taken from under them. Lord Roberts thought that no blame attached to the home authorities in reference to the supply of military stores and equipment. The campaign had been an extraordinarily difficult one from the hospital point of view. In his opinion the Royal Army Medical Corps, assisted by the civilian surgeons had met the difficulties magnificently. Lord Kitchener declared that the cutting down of the hospital transport under the order of January 29 was absolutely necessary in order to quickly relieve Kimberly. The problem was what could be carried with the number of mules available. He deprecated placing the transport altogether in charge of the field hospitals. Surgeon-Gen. Stevenson explained that the men had to lie in the field hospitals in their khaki uniforms, as no provision was made for supplying the field hospitals with clothes. In Bloemfontein everything was taken that was capable of being worked by the personnel. He admitted that there was a shortness of utensils, milk, bedding, etc., and overcrowding of the general hospital. There was also, for a short time, a lack of drugs and utensils in Kroonstadt and Pretoria. He had permission from Lord Roberts to purchase everything obtainable, and he spent several thousands of pounds.

LONDON'S LUNATICS INCREASING.

The annual report of the county council shows that there are more pauper lunatics in London than ever. The only consoling feature is that the rate of increase last year was not so great as usual. At the beginning of this year the number of lunatics was 21,393 against 21,060 last year. There is a high proportion, 1 in 6, of mania from alcohol and more than double the number of women than men have been admitted from this cause. It is found that women relapse and are readmitted with greater frequency than men. Drink was a more prolific cause of insanity than hereditary taint, and much more so than "business worries," "love affairs," etc. Single patients outnumbered the married. This last year the admissions were 1804 married, 2063 single.

Correspondence.

A New Remedy for Whooping Cough.

CALUMET, MICH., Sept. 24, 1900.

To the Editor:—In the *Berliner Klinische Wochenschrift* for Dec. 11, 1899, appeared an article by Dr. Max Heim, of Düsseldorf, in which he recounted such successful results in the treatment of pertussis with a new remedy, "antitussin," that I was impelled to obtain a small amount of the remedy for trial. The results of this trial are, I think, sufficiently interesting to be worthy the notice of those who may not have seen Dr. Heim's original article or any abstract of it. It is an ointment, consisting of 5 parts difluordiphenyl, 10 parts of vaselin and 85 parts of lanolin, and is administered by inunction. The back, chest or abdomen of the patient is thoroughly washed with warm soap and water and rubbed dry with a rough towel. On the skin thus prepared the ointment is applied, a small portion at a time, and rubbed in until the greasy feeling has disappeared. This usually requires from twenty minutes to half an hour. The amount applied at one time varies with the age of the patient; for a child a year old I used a quantity of the ointment as large as the end of my thumb, and for one 5 years old about twice as much. I think, however, that slightly larger amounts would give still better results. I have treated six cases in all, and have been furnished with the data of one other, which was treated by my associate, Dr. Bourland. These ranged in age from four months to six years. In all of them the treatment was not commenced until the paroxysmal stage had been reached, and in most of them this had proceeded about two weeks. In general, the cases were treated in the manner above described daily for the first week, and thereafter every other day until the conclusion of the case. In all an immediate improvement was noted from the very first application of the ointment. The number of the paroxysms rapidly diminished. In four of the cases in which an accurate count was kept of their number, they diminished as follows: In Case No. 1, from 16 paroxysms on the first day of treatment to none on the thirteenth; in Case No. 2, from 27 on the first day to none on the thirteenth; in Case No. 3, from 18 on the first day to none on the sixteenth; in Case No. 4, from 25 on the first day to none on the fifteenth. In another case in which very severe paroxysms, though few in number, had existed for over a week, there was not a single severe additional attack after the first application of the remedy, and the attacks entirely disappeared after the fourth application. In one of the cases there was a relapse about a week after a cure seemed to have been effected.

The severity of the paroxysms, as well as the number, rapidly diminished from the time of beginning the treatment. They were neither so long nor so exhausting; the vomiting which usually followed them became less frequent and the children improved in appetite and in getting their normal amount of sleep. At night the greatest improvement seemed to be manifested. In fact, from the beginning of treatment, the patients all steadily improved, and progressed to a complete recovery, save in the one case of relapse mentioned. They were receiving no other medication during the time of this treatment. The patients all seemed to take kindly to the method of medication, and the younger babies in particular seemed to get a great deal of pleasure out of the process of inunction. In no case

were any unfavorable symptoms, visceral or otherwise, observed which might have been due to the use of the remedy.

In a disease like pertussis, for which so many remedies have been proposed, and most of them untrustworthy, any one which approaches the nature of a specific would be given a hearty welcome. While my limited experience with the remedy does not warrant my making any too extravagant statements concerning it, I do feel justified in expressing the belief that it is of great value in pertussis, and well worthy of a trial by any who are called on to treat this disease.

Frederick T. Wright, M.D.

The Kernel of Listerism.

Fort Reno, Okla., Sept. 21, 1900.

To the Editor:—Your editorial entitled "Pathologic Asepsis" on page 691 of The Journal of Sept. 15, 1900, helps to answer the query: What, after all, does the good residuum consist of when Listerism has been boiled down, filtered, and, in general, freed from all extraneous and worthless ingredients? That there will be a good residuum is beyond doubt. It has long been known that germs are necessary for digestion, for producing fermentation, and for bringing about useful decay of dead bodies, vegetable or animal. In other words they promote progress. The best garden-soil reeks with germs, poisonous and non-poisonous. Sterilized soil plus sterilized water will bring forth nothing, whether sown or not sown. Your editorial implies that, without the little organisms, wounds will not heal. In other words, life—for germs represent, and the word "germ" primarily means, life, or the first principle—is needed everywhere we wish to maintain or to increase life. Furthermore, wounds not infrequently healed by first intention before asepsis was dreamed of; and during the last few years in Cuba, the Philippines and South Africa, it seems to have been the rule rather than the exception that the simpler wounds healed that way—and certainly asepsis or antisepsis was not usually carried out—could not be, in fact.

But cleanliness was enforced. Gross handling, the application of dirty substances, and the probing with dirty instruments, was not allowed. In most cases a clean bandage was immediately placed over the wound—though the latter was but imperfectly cleansed—and kept there.

Is it not entirely pertinent, then, to ask: Does not the condensed extract of Listerism—the solely useful part to the patient—consist merely in the cleanliness involved? It would appear that had surgery forty years ago been the cleanly art it is to-day Listerism would never have seen the light. The old saying, "cleanliness is next to godliness," receives new force.

Very respectfully, J. D. Poindexter, M.D.,
Capt. and Asst.-Surgeon, U. S. Army.

Deaths and Obituaries.

Jesse W. Lazear, M.D., U.S.A., who died from yellow fever in Quemados, Cuba, September 26, was born in the suburbs of Baltimore, in 1866. He took a course of study and his B. A. degree at Johns Hopkins University, and his M. D. degree with honors at the College of Physicians and Surgeons, New York, 1892. He served as interne for two years in Bellevue Hospital and then went to Germany for a year to pursue special studies in bacteriology. In 1895 he became demonstrator of clinical microscopy in Professor Osler's service, and one of the house physicians at Johns Hopkins hospital until the spring of 1900, when he entered the Medical Department of the Army as acting assistant-surgeon. He was at once assigned to duty at Quemados, Cuba, made a member of the board appointed for the study of yellow fever, and placed in charge of a laboratory at that place. His work since then can be best described by quoting from the letter sent to the surgeon-general of the army, by the chief surgeon, department of western Cuba: "Dr. Lazear has for the past four months exposed himself with absolute fearlessness in the discharge of his duties. He has examined the blood of every case of yellow fever which has occurred at Columbia barracks and in Marionao during that time; has immensely aided in the making of prompt diagnoses, which has been so important an element in our preventing the spread of the disease and in the success of the treatment of our cases. In the investigations of the board he has shown the same courage, earnestness and ability which characterized all his work. Dying at the age of 34, he leaves a wife and two children, the youngest of whom he never saw, as his son was born in the United States while he was in Cuba this summer."

Preston Brown Scott, M.D., died in Louisville, September 24, of typhoid fever contracted while at Mount Clemens, Mich. He was born in Frankfort, September 12, 1832; his father was the first school commissioner in Kentucky, and on his own farm in 1841 erected the first public school, and there Preston Scott, when 9 years of age, became enrolled as the first public-school pupil in Kentucky. He was graduated from Georgetown College in 1849; from the medical department of the University of Louisville in 1856. He settled in Hickman County, Ky., but later removed to Bolivar, Miss. When the war broke out, Dr. Scott was appointed surgeon in the 4th Kentucky Infantry, C.S.A., was promoted to brigade surgeon under Gen. Ben Hardin Helm, and later was transferred as surgeon to the staff of Gen. Jos. E. Johnson at Jackson, Miss. At the conclusion of the war Dr. Scott went to Louisville, where he practiced continuously, enjoying one of the largest general practices in the city. He was possessed of a particularly broad and versatile mind, and kept thoroughly abreast with the times. He was one of the medical directors of the Episcopal orphanage and was physician in charge of the Masonic Widows' and Orphans' Home. At the last meeting of the Confederate veterans in Louisville he was elected president of the Surgeons' Association.

James Hart Curry, M.D., of Shrub Oak, N. Y., where he had been in practice for nearly fifty years, died there September 24. He was born in New York City in 1827 and was graduated in 1852 from Yale Medical College. At the time of his death he was the oldest member of the Westchester County Medical Society, in which he had held every office. During the Civil War he served as surgeon of the 18th N. Y. Volunteer Infantry, and subsequently on the staff of the 5th Division, N.G. S. N. Y.

James Willoughby Phillips, M.D., superintendent of the Burn Brae Sanatorium, Clifton Heights, near Philadelphia, died September 20, aged 53 years. He was born in Montreal, attended the University of Toronto, and afterward studied medicine for three years at Guy's Hospital, London. He obtained his M.R.C.S. in 1874. He came to Philadelphia in 1876, and was a member of the College of Physicians and various medical societies.

Samuel N. Pierce, M.D., a graduate of Vermont Medical College, Woodstock, surgeon of the 13th Iowa Infantry in the Civil War, and one of the oldest physicians as regards length of practice in Iowa, died at Cedar Falls, September 23, from paralysis, aged 68 years.

J. F. Moser, M.D., while burning brush on his farm near Silverton, Ore., was pinned down by a falling tree and burned to death, September 13. He was 44 years of age, a graduate of Willamette University medical department, Salem, and had served as physician at the Warm Springs Indian Agency.

James A. Paddock, M.D., a native of Princeton, Ill., a graduate of Bellevue Hospital Medical College in 1874, one of the pioneer physicians in the Black Hills and surgeon to the Burlington Railroad, died suddenly from apoplexy at his home in Deadwood, S. D., September 16, aged 52 years.

Reuben Swartz, M.D., who died suddenly in Lebanon, Pa., September 16, was born in Hancock in 1842, was graduated from the Medico-Chirurgical College, Philadelphia, and practiced in Myerstown until 1882, when he moved to Lebanon.

Robert F. Forrest, M.D., a native of Watertown, Mass., and a graduate of Harvard Medical School in 1898, died at his home September 18. After his graduation he practiced in Cambridge until last June, when he was obliged to go to Colorado for his health.

W. SCOTT WOLFORD, M.D., Philadelphia, died of nephritis after a long illness, September 18, aged 53 years. He was graduated with honors from Jefferson Medical College in 1873, practiced in Philadelphia and was coroner's physician for a time.

HENRY B. WILSON, M.D., a native of Boonboro, Md., who had practiced for ten years in Omaha, Neb., died near Aberdeen, Harford County, Maryland, September 20, aged 35 years. He was graduated from the University of Maryland in 1889.

JESSE H. NAFTEL, M.D., county physician of Montgomery County, Alabama, died suddenly from heart disease at Montgomery, September 17, aged 39. He was graduated from the Medical College of Alabama, Mobile, in 1887.

GEORGE A. BRECKENRIDGE, M.D., St. Joseph, Mo., who was graduated from the Central Medical College in that city last year, died at his home, south of Stewartsville, Mo., September 19, aged 30.

JAMES R. POWELL, M.D., Tipton, Ind., was found dead by the roadside, five miles from his home, September 21. He was graduated from the Central College of Physicians and Surgeons, Indianapolis, in 1894.

J. HERBERT ELLIS, M.D., one of the successful contestants for an interneship at the Cincinnati Hospital, died at Asheville, N. C., September 25, of pulmonary hemorrhage. He would have entered upon his duties at the hospital October 10.

THOMAS BAILEY LEWIS, M.D., Turnersville, Ky., a graduate of the College of Physicians and Surgeons, New York, in 1859, and surgeon of the 6th Kentucky Cavalry, C. S. A., died from phthisis, September 16.

OTIS K. CHAMBERLIN, M.D., who was graduated from Albany Medical College in 1845, died September 20 at Dayton, Ohio, where he had practiced for many years, aged 84.

DEATHS ABROAD.

PROF. EDUARD ALBERT, whose fame as a surgeon, teacher, lecturer and medical writer is world-wide, died in Vienna, September 26, aged 59. He was born in Bohemia, studied in Vienna, became assistant in the surgical clinic in 1867, professor of surgery at Innsbruck in 1873, and in 1881, after the death of Damreicher, assumed the chair of surgery. Students in Vienna used to attend Albert's lectures and Billroth's clinics. As a lecturer he was unsurpassed. His knowledge of the literature was remarkable. Among his pupils are such men as Hochenegg, Lorens, Maydl, C. Ewald, Hobart and Ullmann. He demonstrated before the International Medical Congress in August the architecture of the long bones, showing how their construction is regulated by the same laws that man has laboriously evolved in the architecture of bridges, etc., to ensure support and strength. His "Lehrbuch der Chirurgie" was the first manual to appear inspired by antiseptic principles. His works include several on the history of medicine and surgery, and on the treatment of various surgical affections. Among his contributions to science may be mentioned his artificial ankylosis for flail-joints, tenopexis, osteoplastic method of neurectomy of the mandibularis, and arthrectomy synovialis. He was the first to make a transplantation of the nerves on man, and to call attention to sciatic scoliosis and to painful papilloma of the tongue.

DR. J. A. DE LOS RIOS, professor of therapeutics, died at Lima, Peru, July 25. He was president of the Medical "Union Fernandina" and formerly editor of *La Cronica Medica*.

Miscellany.

MARINE-HOSPITAL NOTES.

IMMIGRATION STATION AT HAVANA.

The prevalence of yellow fever in Havana this summer, mainly among recent non-immune arrivals, has suggested to the Governor-General of Cuba the advisability of establishing a camp outside of the city of Havana where non-immune immigrants may be detained pending their distribution among the plantations of the island, thereby avoiding contact with infected foci in the city of Havana. A board has already been appointed for the purpose of carrying this idea into effect. The site recommended by the board is on the hills some distance back of Triscornia, a place across the harbor from Havana proper. Large, comfortable and well-arranged barracks are to be built. On arrival of a vessel with immigrants, she will be boarded and inspected as usual by a medical officer of the Marine-Hospital Service, and then all immigrants not disqualified at this inspection will be sent to Triscornia and from there passed on to the immigration station. There the immigrants will be cared for until they can be safely transported to the country districts. Heretofore these immigrants have entered the city of Havana and lived sometimes for weeks in the overcrowded and infected districts while awaiting employment. It is contemplated that a medical officer of the Marine-Hospital Service will be detailed in charge of this immigration station.

THE GALVESTON FLOOD.

Surgeon Peckham, in charge of the Marine-Hospital Service at Galveston, Tex., has written an interesting report on the tornado, detailing the facts, which are corroborative of the press dispatches. He places the loss of life at more than five thousand, and states that 500 dead bodies drifted ashore at Virginia Point. He has been nearly over the island and has not seen a house that was not damaged. The aerometer at the weather bureau broke down when eighty-four miles an hour was reached, and it is estimated that 100 miles an hour was the velocity of the wind at one time. Water was over the whole island; at the highest point of the island the water was 5 feet deep. At the house where he boarded the water was 7 feet deep. He was instrumental in saving seventeen persons, and, immdiately after the storm, began the work of furnishing surgical relief. At the request of the local board of health, Surgeon Peckham established two camps intended for the care of sick and homeless, and had to assist him P. A. Surgeon Wertenbaker, Sanitary Inspector Lea Hume and Hospital Steward Peck. The material for the camps was taken from the contributions so generously sent in. It is understood that they are now used simply as refuge camps under the local authorities.

STATUS OF BUBONIC PLAGUE IN GLASGOW.

The latest reports received from the medical officer of the Marine-Hospital Service on duty in Glasgow show that there have been a total of thirteen cases to September 7. There have also been one or two cases in the suburbs of Govan. The authorities have defined a wide area about the houses where the original cases occurred and special sanitary supervision is exercised inside of this line. The infected premises have been cleaned, fumigated with sulphur and the walls and floors washed with carbolic acid solution and whitewashed. All infected clothing and bedding has been steamed or destroyed. The medical officer and his assistant have been inoculated with Yersin serum, as they have been exposed to the disease. They are inspecting all vessels, their cargoes and passengers leaving for the United States or Canada. Dr. Thomas states that the crews are the most dangerous and difficult feature, but that every facility is being given by the officers of the various vessels in their inspection and in all the precautionary measures.

Suturing the Sigmoid Flexure to the Bladder in Gynecologic Operations.—There are no means of covering the raw surfaces left after removal of extensive portion of the peritoneum in certain operations on the small pelvis. Amann stated at the International Medical Congress that he remedies this by drawing forward the sigmoid flexure and fastening it to the posterior surface of the bladder. The meso-colon is thus stretched across above the small pelvis, completely isolating the field of operation from the large abdominal cavity. Supplemented by drainage into the vagina it enables the peritoneum to be resected with comparative impunity. The procedure is harmless, with no inconveniences of any kind, and is proving a new and valuable resource in pelvic surgery, as Jonnesco confirmed from his experience.

Therapeutics.

Carbolic Acid in Mastoiditis.

W. C. Phillips, in *Med. Record,* states that he has found carbolic acid to be without a peer in treatment of suppurative conditions about the ear. He applies it with a cotton swab or with an atomizer, and permits it to remain for thirty or sixty seconds and neutralizes it with alcohol. With this treatment unhealthy granulations become normal, the discharge ceases and often operations are avoided.

—*Med. Progress.*

Epithelioma (Cutaneous).

R.	Orthoformi	℥i	4
	Acidi arsenosi	℥i	4
	Alcoholis	℥v	160
	Aquæ destil.	℥v	160

M. Sig. As a local application.

The above combination is recommended by Ginestoux in the *Philadelphia Medical Journal.* The orthoform possesses marked anesthetic properties.

Colorless Iodin Ointment.

R.	Iodi	gr. xx	1 33
	Potassii iodidi	gr. iv	25
	Aquæ destil	m. vi	36
	Adipis	℥i	32
	Sodii sulphitis	gr. xl	2 66

M. First rub the chemicals with the water till colorless, then add the lard. Sig. Use as a local application. —*Ex.*

Cholera Morbus.

R.	Acidi carbolici	gr. viii	48
	Glycerini	℥v	20
	Tinct. opii camphoratæ	℥ii	64
	Aquæ cinnamomi	℥iii	96

M. Sig. One teaspoonful after each movement for an adult.

—*Med. News.*

R.	Acidi sulphurici aromatici	℥ii	8
	Extracti hematox. fluidi	℥ii	8
	Spts. chloroformi	℥ss	16
	Syrupi zingiberis, q. s. ad	℥iii	96

M. Sig. Teaspoonful every two hours.

—Hare: *Texas Med. Jour.*

Convulsions in Children.

R.	Moschi	gr ii	12
	Chloralis hydratis	gr. ivss	30
	Camphoræ	gr. xv	1
	Yolk of egg	℥iiss	10
	Aquæ	℥iii	96

M. Sig. As an enema when the child is unable to take treatment by the mouth. J. Simon: *Med. Record.*

Hyperhidrosis.

R.	Tinct. belladonnæ	℥i	4
	Eau de cologne	℥i	32

M. Sig. Mix a few drops with a little vaselin and rub into the skin freely, after washing with soap and water.

Dysentery—To Relieve Tenesmus.

R.	Tinct. nucis vomicæ		
	Liq. potassii arsenitis		
	Tinct. opii, āā	℥i	4

M. Sig. Two or three drops every hour or two in a tablespoonful of hot water.

—Geo. H. Chandler: *Med. Summary.*

Puerperal Convulsions.

R.	Potassii bromidi	℥iii	12
	Potassii iodidi	gr x	66
	Syr. tolutani		
	Aquæ destil, āā	℥ii	64

M. Sig. One tablespoonful three times a day.

—Benjamin.

Acute Alcoholic Delirium.

R.	Chloralamid	gr. xv	1
	Hyoscinæ hydrobromatis	gr. 1/100	0006

M. Sig. At one dose. —D. R. Brower.

Hematemesis.

The *Medical Record* advises the following:

Rest in bed, hypodermic injection of ergotin over the epigastrium and ice locally to the same region. Internally, give opium, 1 or 2 grains, and the following mixture:

R.	Ergotin	℥i	4
	Acidi gallici	gr. x	66
	Ext. opii	gr. ii	12
	Syr. terebinthinæ	℥i	32
	Aquæ destil.	℥iv	128

M. Sig. One teaspoonful every two hours.

In cases of syncope, employ horizontal decubitus, injections of ether, flagellations, mustard leaves to legs. If perforation of stomach occurs, with resulting peritonitis, give morphin hypodermically. —*Exchange.*

Rebellious Chilblains.

R.	Sol. plumbi subacetatis		
	Tinct. sodii iodidi		
	Tinct. opii, āā	m. xx	1 33
	Amyli	℥ss	2
	Glycerini	℥v	20

M. As a local application. —*Exchange.*

Removal of Superficial Epithelioma.

R.	Wheat flour		
	Pulveris amyli, āā	℥ii	64
	Acidi arsenosi	gr. xv	1
	Cinnebar (hydrarg. sulphid)		
	Ammonii chloridi		
	Hydrargyri chloridi corros, āā	gr. lxxv	5
	Solutionis zinci chloridi	℥viii	256

Rub each ingredient separately, and then together in an earthen vessel and finally add the solution of zinc chlorid drop by drop.

The above paste is by Bougard, and is said to be superior to Marsden's preparation for the removal of superficial epithelioma. —*Am. Jour. of Surg. and Gyn.*

Mumps—Parotitis.

R.	Ichthyolici		
	Plumbi iodidi, āā	gr. xlv	3
	Ammonii chloridi	gr. xxx	2
	Adipis	℥i	32

M. Sig. Apply to the parotid gland three times a day.

—*Interstate Med. Journal.*

Scabies and Prurigo.

R.	Epicarin	℥ii	8
	Cretæ alb.	gr. xxx	2
	Vaselini alb.	℥i	32
	Lanolini	℥ss	16
	Adipis	℥iss	48

Pfeiffenberger, in *Klin. Ther. Woch.,* recommends the above containing epicarin in treatment of scabies and prurigo in children. —*Therapist.*

Lotion for Burns.

Dr. Nikolsky, in *Journal de Méd. de Paris,* recommends the following:

R.	Acidi tannici		
	Alcoholis, āā	℥ii	8
	Etheris sulphurici	℥ii	64

M. Sig. Use as a local application.

—*N. Y. Med. Journal.*

Goiter.

R.	Hydrarg iodidi rubri	gr. x	66
	Atropinæ sulphatis	gr. ss	03
	Unguenti simplicis	℥i	32

M. Sig. A piece the size of a pea to be well rubbed into the skin over the tumor two or three mornings in succession, and then repeated once a week. —*Alk. Clinic.*

Lumbago.

R.	Linimenti camphoræ	℥xii	48
	Olei terebinthinæ	℥ii	8
	Saponis mollis puræ	℥iv	16

M. Sig. Rub the parts well night and morning.

—Gould and Pyle.

Ringworm of the Scalp.

The following outline for treatment of ringworm is laid out by Jamieson, in the *Edinburgh Med. Jour.:*

1. Shave the hair from the scalp.
2. Keep the scalp clean by washing twice a day with soap and warm water.
3. Apply the following ointment:

℞. Sulphuris precip.
Acidi salicylici
Betanaphtholi
Hydrargyri ammoniati, āā.....gr. x | 66
Lanolini, q. s.....ʒi | 32

M. Sig. To be rubbed into the scalp thoroughly twice a day.
—*Exchange.*

Rheumatoid Arthritis.

According to *La Presse Médicale,* Dr. Mussey employs the following ointment, with asserted good results:

℞. Ext. belladonnæ
Ext. hyoscyami
Ext. conii
Ext. opii, āā.....gr. xv | 1
Adipis .....ʒii | 64

M. Sig. Apply locally night and morning.
—*Ther. Gazette.*

Emetic for Children.

℞. Pulv. ipecacuanhæ .....gr. viiss | 5
Antimonii et potassii tartratis .... gr 1/6 | 01
Aquæ destil., q. s. ad.....ʒi | 32

M. Sig. One teaspoonful every ten minutes until vomiting is produced.

Shingles—Herpes Zoster.

℞. Ichthyolici
Magnesii carbonatis
Zinci oxidi, āā.....ʒii | 8
Aquæ destil., q. s. ad.....ʒiv | 128

M. Sig. Spread over the affected part and cover with a bandage.

Ichthyol—5 per cent.—in collodion may be used, and where rheumatism is present the salicylates may be given in large doses. —Lusk: *Postgraduate.*

Loss of Hair.

Baril, in *Jour. de Méd. de Paris,* recommends the following application for the arrest of the falling of hair:

℞. Acidi hydrochlorici .....m. lxxv | 5
Alcoholis .....ʒv | 160

M. Rub the scalp well every night with the solution.
—*N. Y. Med. Journal.*

Constipation in Women.

Lutaud, in *Journal de Méd. de Paris,* recommends the following for constipation in women:

R. Res. podophylli .....gr. xxv | 1 | 66
Euonymin .....gr. v | | 33
Ext. belladonnæ .....gr. x | | 66
Ext. hamamelidis .....gr. xx | 1 | 33
Saponis .....gr. xxx | 2 |

M. et ft. pillulæ No. 50. Sig. Take one or two pills after the evening meal. —*Ther. Gazette.*

Glycerin in Fever Mixture.

The *Clinica Moderna* recommends the following mixture as beneficial in allaying thirst and fever:

℞. Glycerini puri .....ʒviiss | 30
Acidi citrici .....ʒss | 2
Aquæ destil., q. s. ad .....ʒxxv | 100

M. Sig. One to two tablespoonfuls at one dose to allay thirst and fever.

Chronic Eczema of the Hands.

℞. Iodi .....gr. iss | 1
Potassii iodidi .....gr. iv | 25
Glycerini .....ʒiii | 12

M. Sig. Apply the paint to the hands every evening and then envelop them in lint.

Edelfsen, in *New Eng. Med. Monthly,* states that he has adopted this treatment with success where other remedies have failed. The irritation is always relieved and a cure effected in about two weeks. In more obstinate cases he uses a boric-acid ointment applied in the morning and the above combination in the evening. —*Am. Jour. Surg. and Gyn.*

Nutrient Enema.

The *Medical Sentinel,* in commenting on treatment of ulcer of stomach, states that the best treatment consists of complete rest in bed, no food by the mouth, and that the nourishment should be given entirely by the rectum. The enemata should be administered four hours apart, first cleansing the bowel with an enema of warm water by means of a high injection. The following formula is recommended by J. B. Herrick:

℞. Somatose .....ʒi | 4
Egg—one-half
Sodii chloridi—small amount
Spts. frumenti .....ʒi | 4

M. Sig. At one feeding per rectum.

Medicolegal.

Insane Person's Estate Liable for Necessaries.—The Court of Appeals of Kansas holds, in Palmer vs. Hudson River State Hospital, that, to charge the estate of an insane person with the expense of maintenance and for necessaries furnished, it is not requisite that there be an express promise to pay therefor, either by the insane person or guardian. In other words, it holds that the estate of an insane person is liable for necessaries furnished him upon an implied contract. Nor does it consider that any statute is necessary to create a liability on his part, binding his estate, for such benefits received by him. Besides this, it holds that where an insane married woman was a citizen of Kansas, where her husband and children were domiciled, who were able to support her, as it was their duty to do, and she went on a visit to relatives in New York, where she was admitted to a hospital as an indigent insane person, it was the duty of the agents of the hospital, on discovering that they had been providing an asylum for a person not entitled thereto as a lawful right, and that the recipient was able to refund to the state its expense therein, to sue, in the name of the hospital, to recover it.

Not Authorized to Burn Buildings for Smallpox.—In Prichard vs. Commissioners of Morganton, brought to recover for the burning of a dwelling as a health precaution, the Supreme Court of North Carolina holds that the board of commissioners of the county, as representing officially the county, were not liable, for the reason that there was no statute making them so, either expressly or by necessary implication. And the town commissioners, as representing the town community, it holds, were not liable: first, because the act complained of was for the interest of the state at large; and, second, because they unreasonably exceeded the powers conferred on them. True, the town charter authorized them to take such measures as they might deem effectual to prevent the entrance into the town, or the spread therein, of any contagious or infectious diseases; and under these powers they were permitted to cause to be destroyed or disinfected such furniture or other articles as should be believed to be tainted or infected with any contagious or infectious diseases, or which there should be reasonable cause to apprehend would generate or propagate diseases, and might take all other reasonable steps to preserve the public health, and for this purpose might use any money in the treasury. But, as the court construes it, that was no authority to burn or destroy any house or residence. Neither does it see the necessary authority in a statute providing that in cases where the county superintendent of health declared that a nuisance existed, it should be removed or abated at the expense of the town, city, or county, in case of the offender's inability to remove it, though the expense should not exceed $100, particularly when the superintendent had not acted in the matter. Nor does it see authority to burn a dwelling in a statute conferring on boards of county commissioners power to make rules, regulations and by-laws for preventing the spread of contagious and infectious diseases.

A proper disinfection, it thinks, would be the extent of their powers in respect to property thus tainted or infected.

Must Take What Charitable Hospitals Have to Give.—The United States Circuit Court lays down the rule, in the case of Powers vs. the Massachusetts Homeopathic Hospital, that a beneficiary of a charitable corporation, as for example a patient in a hospital which is chartered or must be legally classed as a charitable institution, must take its bounty for what it is worth. In other words, it holds that no person who accepts the bounty of any charity, can maintain a suit on account of the method of the administration of the bounty which is accepted. It declares it absolutely inconsistent with the underlying idea of charities as recognized by the law, to hold that the same rule that applies to a person or institution employed for compensation to do a certain service applies to the distribution of charity. In its view, the person who enters a charitable hospital is not a contractor; neither is the hospital a contractor with that person. The person who enters is a mere licensee, like a guest who enters one's house, and who must take the service as he finds it. Assume that a stranger enters one's house, and is suddenly taken with a severe sickness. Can such householder, it is asked, be held responsible for the selection of an incompetent surgeon or physician, or for neglect on the part of a servant, with reference to the care of that person? He can not, it is answered, have higher rights than a member of the household of which he has for the time being become, as it were, a part. All he is entitled to is not to be led into a danger known to his host, and not known or reasonably apparent to himself. That, the court holds, is the precise rule that applies to a public charity. And, in this respect, it holds, private charity and public charity rest on exactly the same ground, and there is no basis in either case to hold that the person who receives bounty is a contractor, a person contracting for service, as one engages service when he ordinarily employs a surgeon. He is, in law, only a licensee. Nor does the court consider that the reception—the frequent reception—of money from patients changes the nature of the institution; and the following out of this proposition it says necessarily leads to the conclusion that the reception of money from any particular patient does not change the nature of the service rendered that patient, so far as anything said here is concerned. It looks at the money paid in such a case as a proper contribution to a charity on the part of the person who makes the payment and receives the benefit of the charity. It is not compensation in the sense of the law. Furthermore, the court holds that the officers of a charitable corporation have no power by contract to impose any liability beyond that which the law raises. If it is unsuitably or carelessly managed, the remedy is in the hands of the state. So, for the reasons adduced, it holds the hospital here sued not liable for an injury alleged to have occurred to a patient through the neglect of a nurse, even if it was a "pay" patient, it being, in law, a charitable corporation.

Injured Person's Duty to Employ Physician.—Texas & Pacific Railway Company vs. White is the title, in the United States Circuit Court of Appeals, Fifth circuit, of an action that was instituted by the latter party to recover damages for personal injuries alleged to have been sustained by him while a passenger on this company's railroad, through the negligence of its servants. He averred that he received a serious injury in the abdomen, resulting in causing him great pain and in producing a serious and painful disease of his bowels and sharp, severe and continuing pain in his spine or back, and in producing varicocele. But, for reasons which he afterward endeavored to satisfactorily explain, he did not at any time mention the fact of his having been hurt to any of the servants of the company. Besides, he proceeded on his journey with his car of cattle, which he was accompanying, riding on the top of that car part of the way, and even assisted in driving the cattle from the railroad to the ranch, traveling on foot a distance of thirty-seven miles, after which he did more walking, and some railway traveling. Nor did he, during the ten days thus consumed, before he reached home, employ a physician, his explanation thereof being that he had hopes of wearing it out, and that it would pass off, and that he wanted to get back home where he could get his family physician. It should, perhaps, be added that a man who was on the train at the time of the alleged accident testified that the party claiming injury spoke to him about it, and showed him a bruised place on his side. On the trial, the judge who presided recognized the settled doctrine that it was the plaintiff's duty to use reasonable care not to aggravate, or suffer to be aggravated, so far as he could prevent it, the injury which he had received. Continuing, the court of appeals says that the application of this doctrine to the subject of the plaintiff's failure to promptly obtain professional medical and surgical assistance is not very clearly shown by the adjudged cases or text-writers, so far as it has been able to examine. Here the injured party believed that the exigency of his business required him to continue his journey with his cattle, and to continue his care of them until they reached the ranch, and, the court says, it was not unnatural or unreasonable that he should hesitate to employ physicians who were strangers to him while he could endure the suffering he experienced until he could reach home, to have the advice and attention of his family physician. It goes on to state, however, that, while these reasons for his action commended themselves to its experience and sympathy, yet if therefrom an aggravation of his injury resulted, from his active attention to his business or from his failure to obtain the advice and aid of competent physicians who were accessible, such aggravation, whether it resulted from his active exertion, or from his neglect or failure to obtain the needed medical or surgical assistance, could not, in justice, be charged against the railway company in addition to its liability for the original injury to the extent of the damage it necessarily caused. And it holds that it was as incumbent on him to procure the advice of a competent physician and surgeon, if accessible, as it was to refrain from such physical exertion as tended to aggravate his injury. There being proof tending to show that a part of the trouble could have been speedily cured, at a small expense and without hazard, by prompt proper surgical treatment, it holds that it was for the jury to say whether the conditions required a surgical operation, as also to determine the issues of fact raised by conflicting evidence as to the existence, nature, extent and likelihood of relieving the other troubles. Then, it says that, from the nature of the case, opinion testimony must be relied on, but in considering opinion or expert testimony the opinion of the jury is the chief factor in reaching ultimate conclusions.

Societies.

Coming Meetings.

Wyoming State Medical Society, Cheyenne, Oct. 9-10.

Mississippi Valley Medical Association, Asheville, N. C., Oct. 9-11.

Iowa State Association of Railway Surgeons, Des Moines, Oct. 11-12.

Vermont State Medical Society, Rutland, Oct. 11-12.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, Tenn., Oct. 11-13.

New York State Medical Association, New York City, Oct. 16-18.

American Public Health Association, Indianapolis, Ind., Oct. 22-26.

Medical Society of Virginia, Charlottesville, Oct. 23.

Southern Surgical and Gynecological Association, Atlanta, Ga., Nov. 13-15.

Oklahoma Territory Medical Society, Oklahoma City, Nov. 15.

The Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, Nov. 13-15.

The Jacksonville (Ill..) Medical Society held a meeting September 15, at which Dr. Frank P. Norbury read a paper on "The Progress of Therapeutics."

The Tri-State Medical Society of Alabama, Georgia and Tennessee will hold its twelfth annual meeting in Chattanooga, Tenn., October 11, 12 and 13, immediately after the close of the Asheville meeting of the Mississippi Valley Medical Society. A rate of one fare or one and one-third fares, on the certificate plan, has been made for the meeting.

THE SAN JOSE (Cal.) MEDICAL ASSOCIATION met on September 20, when Dr. James R. Curnow presented a paper on "Epilepsy," which was followed by a spirited discussion.

THE SKAGIT COUNTY (Wash.) MEDICAL SOCIETY effected a temporary organization September 13, at Burlington, with the following officers: Dr. M. B. Mattice, Sedro-Woolley, chairman, and Dr. Charles C. Harbaugh, Sedro-Woolley, secretary.

THE VANDERBURGH MEDICAL SOCIETY met at Evansville, Ind., September 18, and listened to a paper by Dr. Jacob H. Keith, in which he discussed the food-supply of Evansville, commending the meats, but condemning much of the milk.

THE HARTFORD (Conn.) MEDICAL SOCIETY held its first fall session September 16, Dr. John F. Dowling in the chair. Dr. Arthur J. Wolff exhibited the new substance, "urein" (described in THE JOURNAL, XXXV, p. 711). Dr. Joseph E. Root presented a specimen of tumor and Drs. Michael A. Bailey and M. M. Johnson made reports as delegates to THE AMERICAN MEDICAL ASSOCIATION.

THE LYCOMING COUNTY (Pa.) MEDICAL SOCIETY met at the Williamsport Hospital, September 14. Dr. E. Roy Gustin, Williamsport, read a paper on "Skin Diseases"; Dr. Charles M. Heberton, Hughesville, spoke on "Poisons"; Drs. John A. Klump, Williamsport, and Joseph W. Albright, Muncy, discussed "The Treatment of Shock," and Dr. Charles E. Thomson, Scranton, considered "The Treatment of Congenital Club-Foot."

THE DELAWARE COUNTY (Pa.) MEDICAL SOCIETY held its regular meeting September 13 at Chester, Dr. H. Gallagher, Glenolden, in the chair. Dr. Robert S. Maison, Chester, spoke at length of the epidemic of typhoid fever at Trainer. He considered the epidemic due solely to milk from one dairy, the proprietor of which was himself ill with the disease. Drs. Samuel D. Risley, Media, and Samuel Trimble, Lima, reported cases, and Dr. William B. Ulrich, Chester, gave a description of Galveston Island.

THE SANTA FE RAILWAY MEDICAL AND SURGICAL SOCIETY held a special meeting in Colorado Springs, Colo., September 26. Papers were read by Dr. Charles G. Elliott, Blackwell, Okla., on "The Modified Form of Smallpox"; Dr. Luther D. Jacobs, Emporia, Kan., on "Infusion of Normal Saline Solution in Shock Without the Accompaniment of Hemorrhage"; Dr. J. Frank Connell, Las Cruces, N. M., on "Canodol as a Detergent in Surgery"; Dr. E. B. Shaw, Las Vegas, N. M., on "Typhoid Fever and Its Treatment," and Dr. George R. Highsmith, Carrollton, Mo., on "Trauma an Etiologic Factor in Tuberculosis of Bones and Joints."

THE CENTRAL WISCONSIN MEDICAL SOCIETY held its quarterly meeting at Janesville, September 12, with an attendance of about one hundred, President Dr. John M. Evans, Evansville, in the chair. Papers were read by Dr. Lewis F. Bennett, Beloit, on "Fractures of the Condyles of the Humerus"; Dr. William E. Dold, Lake Geneva, on "Suggestions for the General Practitioner Concerning Certain Forms of Insanity"; Dr. John E. Allaben, Rockford, Ill., on "Treatment of Inoperable Sarcomas With Mixed Toxins of Erysipelas and Bacillus Prodigiosus"; Dr. Lawrence H. Prince, Palmyra, on "Anesthetics"; Dr. Samuel Moyer, Monroe, on "Appendicitis and the Country Doctor"; Dr. Thomas W. Nuzum, Brodhead, on the converse "The Country Doctor and Appendicitis," and Dr. Arthur C. Helm, Beloit, on "Who Shall Operate." Dr. John F. Pember, Janesville, reported a case of pyonephrosis. At the banquet, held between the sessions, Dr. James Mills, Janesville, was toastmaster.

THE DETROIT MEDICAL AND LIBRARY ASSOCIATION held a regular meeting September 17, at which Dr. Henry R. Varney read a paper entitled "Treatment of Lupus." Excision has been used with good results, but is objectionable when the lesions are on the face. The most satisfactory treatment is curettage. With the common dermal curette one is able to distinguish, with but little experience, the healthy tissue from the broken-down, cheesy degeneration of the tubercle. Freezing mixtures should not be employed. Linear scarification is slow and objectionable. Electrolysis as advocated by Dr. Jackson is satisfactory, the effect of the electricity on the tubercle nodule is two-fold, the heat destroys the germs and the electricity stimulates cell change. Mechanical measures consist of caustics and caustic pastes. Nitrate of silver stands first as a caustic. It penetrates and destroys the isolated tubercle, but spares healthy tissue. Arsenical pastes act more quickly than silver nitrate, but are more painful and can be applied only to small areas. The stronger acids, with the exception of pyrogallic acid, are objectionable, as they destroy all tissues. A comparatively new treatment for lupus is the X-ray exposure. Dr. W. A. Pusey, Chicago, discovered that a number of exposures would blanch the hair, stimulate nutrition of chronic indurated lesions, reduce inflammation and destroy the hair bulb. On these observations the treatment of chronic skin affections is based. Treatment is painless, the exposures are short in duration, the area can be controlled and there is no scarring, but its antiseptic power is as yet unsettled.

Medical Society of the Missouri Valley.

Annual Meeting, Council Bluffs, Ia., September 20, 1900.

GOAT'S LYMPH.

DR. T. L. PUTNAM read a paper on this subject. He described its preparation, composition and uses, and spoke of its use in his hands.

The discussion was most extraordinary. Dr. Macrae thought that Dr. Putnam had been deceived. The lymph was a good thing to quack with, but it was by no means new, Dr. Brown-Séquard having brought it out years ago. It had been used by thousands of French, German and American physicians, who had found such lymph utterly useless; and it had been again introduced by an insignificant Missouri doctor, exploited by a company organized by a Chicago doctor in the most mercenary manner, of which he personally knew, because they had tried to work him for $30 a month for the good-will of the thing.

DR. C. B. WALLACE, St. Joseph, felt that it was very unfortunate that such a paper had been read, that it came originally from the degenerate mind of Brown-Séquard.

DR. B. B. DAVIS was sorry the paper had been read. The society could not go on record as encouraging such a preparation, and protested against it.

CONTUSION OF THE BRAIN.

DR. J. CAMERON ANDERSON read this paper. It was a plea for more careful study of cases of contusion, pure and simple, without fracture. He related the symptoms in detail and cited two interesting cases. The first was completely unconscious for four days, and partially so for two more. The second was totally unconscious for eight days, and partially so for sixteen more. Somewhat later there was great improvement in the mentality, which soon became clear, but without memory of recent past events. He had received the best results in treatment from the use of cathartics, then laxatives, medicines which were vasomotor dilators, and liquid diet; also from the use of the iodids.

DR. B. B. DAVIS was of the opinion that cases of concussion are rare, those of contusion frequent; the injuries from concussion are usually minor, those from contusion are often serious, delayed and their general results permanent. The prognosis should be very guarded.

DR. C. C. ALLISON felt that cases of pure contusion gave a very narrow field clinically; uncomplicated cases were very rare. Hemorrhage and fracture were much more often seen. Contusion affected the blood-vessels, because they were not well supported; small extravasations were present; often a laceration, which added to the shock.

DR. ANDERSON, in closing, said that in contusion there was always a laceration of the vessels; the medulla was greatly damaged. The character of the heart's action and the respiration showed the damage. Many cases supposed to be fractures were not, and the trephine proved it.

CANCER OF THE UTERUS.

DR. B. B. DAVIS made a strong plea for the education of the women of the country to the necessity of a knowledge of their

condition after child-birth, as to laceration of the cervix, etc. They should be taught the danger of leucorrhea, erosions, lacerations, irregular hemorrhages, and especially when occurring between 40 and 50. While most tears heal, they are too often a source of irritation and tend to malignancy. Nulliparous women often suffer from erosions, and these need care as well as the multipara. Cancer is always local at first, and early clean removal entirely eradicates it. No recurrence takes place. Early knowledge is imperative. Physicians are seriously to blame when they do not insist on an examination, and when they make light of the symptoms present.

DR. M. F. WEYMANN urged greater care on the part of physicians in the preparation of specimens to be sent to the microscopist.

DR. DANIEL MORTON said that he never failed to investigate all cases of irregular hemorrhage, and especially in women between 40 and 50 years of age. He felt that the profession was much to blame for neglect in this matter. He was very careful to treat in the most thoughtful manner those patients doomed to death because too late for operation.

DR. C. B. WALLACE made a strong plea for all practitioners to make more careful examinations.

DR. J. M. KNOTT said that he had been repairing cervices for many years and had been on the watch for early cases of cancer, but had never seen one; he had had the misfortune to always see them when inoperable. Not one of his cases that were operated on had ever developed cancer to his knowledge.

STAB WOUNDS OF THE LIVER.

DR. DANIEL MORTON, St. Joseph, reported a case of a man who had been stabbed over the liver. The external wound had been sewed up and patient sent home. Grave symptoms coming on, he sent to Dr. Morton, who opened up the wound. At this time shock was profound, jactitation present, heart feeble and internal bleeding certainly indicated by the conditions. On cutting the sutures the bleeding was profuse and welled up from beneath the liver. The wound was felt under the lower surface of the liver; five yards of 2-inch iodoform gauze were crowded beneath the liver and the hemorrhage ceased. A gallon of clots was removed; coffee and salines were freely used. In twenty-four hours the man was out of danger; the gauze was removed, a yard at a time each day after the third, and recovery took place. He was much impressed with the value of hypodermoclysis in such cases.

CONTUSIONS OF THE EYE WITH HEMORRHAGE INTO AQUEOUS.

DR. M. F. WEYMANN made a report on four cases of trauma, two being from a stick striking the eye and one from a ball ricochetting and striking the eye. In these cases glaucoma and iritis were almost certain. In some of them the lens was dislocated. As regards the treatment, drawing off the blood is not practical; atropin is demanded. Glaucoma is best relieved by the knife and hot compresses are very useful. The prognosis should be very guarded until the clot disappears, as synechiæ, iridocyclitis and cataract are often produced.

MARCY-BASSINI OPERATION FOR INGUINAL HERNIA.

DR. C. B. WALLACE said the restoration of the normal obliquity of the inguinal canal was taught by Marcy, of Boston, long before it was by Bassini, and yet the operation is commonly known as the Bassini operation. He felt that Marcy's name should be associated with Bassini's in the name of the operation. This restoration, the isolation of the sac and the suture of the transversalis and internal oblique to Poupart's ligament are universally followed. He is strongly in favor of isolation of the sac by dissection from its neck to its extremity, rather than the reverse, as is often done.

DR. B. B. DAVIS expressed himself as happy in the thought that herniotomy was not a destructive operation, but one in which the patient's condition was radically improved as regards comfort and great danger prevented. He now used the original Bassini method more than formerly. He never saved the sac, as done by Macewen and Kocher, but ligates and cuts it off. For a long time he used the Marcy tendon, but now uses the chromicised catgut. He thinks that surgeons tie the sutures too tightly sometimes; if the tension is too great he ties loosely and uses more sutures. In his experience patients who have the injection treatment have adherent omentum. He dresses children with cotton and iodoform-collodion, not reinforced. He condemns the Halsted method.

DR. MORTON feels less and less sure of his results with the Bassini method, has had some recurrences, and uses silk-worm gut for suture.

SARCOMA OF THE KIDNEY.

DR. ARNOLD JOLLY said it was the most frequent tumor seen, often congenital and rapid in its course. The symptoms are swelling, hematuria in about one-half of the cases, pain in about one-fourth the cases, with jaundice and nervous condition.

DR. JONAS said that a few words could cover all that was needed to be said. All reports are discouraging; shock of operation is very great; especially if the operation is done on the left kidney death is certain.

CASE OF DOUBLE URETER.

DR. J. E. SUMMERS, JR., Omaha, said the condition is rare. It may be found on both sides or on but one, usually on the left. Two pelves, not connected, are usually found; the ureters may join or may enter the bladder separately. He has seen one double case, each of the four ureters entering the bladder separately. His own case was one of double ureter on the left side. Patient was a girl of 2½ years. The child had been troubled for a long period with irritability of the bladder, and had wet the bed at night. Tubercle bacilli were found in the urine. On laying bare the left kidney a most puzzling condition was found. A tube, soft, collapsible, almost as large as an intestine, was seen; examination showed it to be a ureter of tuberculous character. Further examination showed the other ureter, normal in size; there were two pelves. The kidney was plainly tuberculous. He removed the kidney, cutting off the enlarged ureter close down to the pelvic brim, and the other near the kidney. The ureters entered the bladder separately. Recovery from the operation was uneventful; irritability of the bladder persisted, however, and fewer bacilli were found as the child recovered. Urotropin and methyl blue were found very useful for the irritability. He desired to impress the society with the importance of the necessity of proving the presence and condition of the supposed sound kidney in all cases requiring a nephrectomy. He makes a button-hole incision and palpates the kidney.

THE MASTOID SEASON OF 1900.

DR. HAROLD GIFFORD stated that the season of 1900 has been more productive of mastoid troubles than he had ever seen before. Those patients who begin with simple middle-ear trouble do not reach the specialist until late spring or early summer. He related the case of a physician who developed ear trouble. Instead of coming and undergoing treatment, he kept on with his hard country work, driving many miles daily, for a month. Dr. Gifford operated on both mastoids; pus was found, and he seemed better, but relapsed. Two days later he was operated on again. No communication was made with the subdural space. Aphasia followed, and later delirium. The conditions seemed to point to a cerebral abscess in his judgment and that of two surgical consultants. He opened again over the temporosphenoidal, but no pus was found. Death took place the next day. The autopsy showed no abscess anywhere, no pus between dura and skull, nor exudate. It was a serous meningitis, infection passing through the superior and posterior mastoid cells. He has reached the conclusion that many mastoid cases present neither tenderness nor swelling over the mastoid, and yet mastoid disease is present. He makes it a rule that, with or without the ordinary symptoms of mastoid disease, if no improvement takes place in two weeks, to operate. He regards the presence of discharge and sleeplessness alone as showing the necessity for operation.

DR. STONE related the history of a patient aged 65 who had double mastoid disease; she was under observation by him and Dr. Gifford in consultation for three weeks. Most careful observation could discover no symptom of meningitis up to

when operation was done. Pus was found on both sides, although the patient had talked apparently clearly up to the day of operation.

DR. WEYMANN felt that mastoid pain, tenderness and confusion of intellect were sufficient grounds for operation.

DR. LORD thought that the leucocyte count gave the best possible guide for operation. In mastoid cases requiring operation it ran from very low to very high.

THE TREATMENT OF FEVER IN INFANTS.

DR. H. M. MCCLANAHAN read this interesting and useful paper, which was a plea for greater care and less medicine in the treatment of such a condition. Many are much overtreated. The degree of fever alone is not to be considered, as its continuance is of greater importance. He advises against the new remedies designed to reduce fever, and much prefers the old ones; he uses cold and thinks the method of prime importance. He avoids scaring the children by having them placed on the mother's lap on a rubber sheet. He irrigates the intestinal canal through a No. 8 or 10 catheter, with the fountain syringe about 4 feet high; uses warm water first, then cool, then cold, and gets a half-pint of the cold in the bowel and leaves it there. He also uses the wet pack, first warm, then cool, then cold, and rubs the body while wet. In convulsions use cold to the head and heat to the feet. Food is often withdrawn for hours; it sometimes acts as an irritant. He seldom uses drugs; phenacetin is his favorite when one is needed—one grain an hour. He gives chloral in the rectum—½ grain for a child of 6 months, a very valuable remedy when there is great restlessness. When the urine is high-colored and very acid he finds that the citrate of potash is most valuable, and uses large doses well diluted.

The Society voted to send $25 to the Rush Monument Fund.

The following officers were elected: President, Dr. V. L. Treynor, Council Bluffs; first vice-president, Dr. B. B. Davis, Omaha; second vice-president, Dr. F. E. Sampson, Creston; treasurer, Dr. T. B. Lacey, Council Bluffs; secretary, Dr. Charles Wood Fassett, St. Joseph.

Next meeting in March, 1901, at Omaha.

American Association of Obstetricians and Gynecologists.

Thirteenth Annual Meeting, Louisville, Ky.

Sept. 18-20, 1900.

(*Concluded from page 842.*)

Dr. Rufus B. Hall, Cincinnati, in the chair.

FIBROMA OF THE OVARY.

DR. L. H. LAIDLEY, St. Louis, Mo., contributed this paper. After giving the pathology of fibromata of this organ, the author reported the following case: Mrs. H., aged 29, married, usually enjoyed good health, with the exception of almost complete deafness due to a specific disease, for which she was treated some fifteen years ago. She became pregnant and was delivered of a healthy child about two months before the removal of the tumor. She had noticed a tumor in the region of the left ovary about two years ago, hard and slightly movable, which continued to grow to the size of two fists. In the development of pregnancy it was pressed upward on a line with the umbilicus and could readily be felt in her left side. There was no pain nor discomfort with its presence up to the tenth day after her delivery. She had a favorable "getting-up," when, on the fifteenth day, she had fever, with pains, causing her to again take to her bed. These continued until he saw her, two months later. There could be readily felt and seen a hard, immovable tumor in the left umbilical region, with considerable ascitic fluid in the cavity. On January 20, an abdominal section was made, revealing a solid tumor adherent to the anterior wall of the abdomen, which was detached. Posteriorly the folds of the bowel were adherent to that portion, which were also dissected off, the tumor freed, kidney-shaped, hard, with short pedicle, one inch in diameter by two inches in length, which was ligated and the tumor removed. In tying the ligature it readily cut through its peritoneal covering, but secured the stump from hemorrhage. On examining the remaining organs, the stump of the pedicle occupied the location of the ovary; the tube remained distinct and separate from the tumor; the opposite side showed a healthy tube and ovary; there was considerable hemorrhage from the surface, bleeding following the operation, but with that exception there was no difficulty encountered. The patient made an uninterrupted recovery. The tumor weighed 32 ounces and measured 6x5x3 inches. A histological report accompanied the recital of the case.

Dr. Laidley also reported a case of "Hernia or Diverticulum of the Chorion."

DIFFUSE NON-MALIGNANT PAPILLOMA OF THE VULVA.

DR. EDWARD J. ILL, Newark, N. J., read this paper and showed a specimen which he removed from a patient aged 68. The growth had been of over three years' standing. The inner surfaces of the vulva were thickened, at some places appearing horn-like, white and smooth; at other places there were heavy papillæ, which rose considerably above the surrounding tissue and were from 3 mm. to 15 mm. in diameter at their base. The disease extended from the beginning of the vulva above down to the posterior commissure. It covered the whole vestibule except the tissue immediately surrounding the external meatus of the urethra, and was well defined, but stopped at the vaginal mucous membrane. The vulva as a whole stood out far beyond its normal elevation. The whole vulva was excised. The structure of the tumor corresponds with that usually found in papillomata of the skin. A second case was spoken of by the writer.

THE EDUCATION OF THE LAITY ON SEXUAL MATTERS; WHEN SHALL THEY BE TAUGHT, AND TO WHAT EXTENT?

DR. RUFUS B. HALL chose this for his Presidential Address.

The family physician should be the educator of the people in sexual matters, and when he gets the endorsement, and is sustained in his position by the specialist, his influence will be greatly strengthened and widened. He advises that during the last year in high school, in every school in the land, a text-book be employed embracing embryology, hygiene, anatomy and physiology, including sexual physiology, and that these subjects be taught to every student, both male and female. He believes that this could be accomplished without shocking the morals of the most fastidious individual by dividing the classes so as to separate the sexes. A female teacher should instruct the girls and a male teacher the boys. This is the very time in life when individuals should be taught to know the functions with which Providence has endowed them, and how to care for their bodies as well as their minds. It would be a revelation to them to know that the sexual organs in animals as well as the human race are among the first centers to be formed, and can be recognized as such early in intrauterine life. When the laity become educated on this subject as they should be and understand the meaning of pelvic inflammation in young wives as gynecologists understand it, the parents and guardians of young girls will realize that they owe them a duty before consenting to their marriage.

PRIVATE HOSPITALS AND THEIR MANAGEMENT.

DR. JOSEPH PRICE, Philadelphia, said that the well-organized private hospital, managed by such distinguished men as Marion Sims, T. G. Thomas, Thomas Addis Emmet, William Goodell, Stone, of New Orleans, and a few institutions of the present time doing the best work, offer advantages that are not given by the schools or the political hospitals. The political hospital is not the only corrupt institution; a few of the well-endowed general hospitals, managed and handed down in families to the third, fourth and even the fifth generations, are the most dangerous institutions in the medical profession. It is always a misfortune to an endowed charity or public hospital for a family to be in full possession of the funds or endowments, in that it results in impairing or destroying its usefulness. No one has ever, to the speaker's personal knowledge, made money and accumulated wealth out of a private sanatorium. He may out of the fees, but never out of the board, care and nursing

of patients. The board of patients rarely pays 5 per cent. on the money invested. A good number of these institutions have been financial failures and have closed. Private hospitals give the operator the best opportunity for doing good work. In well-managed private institutions the patient has one or more attendants with well-regulated relays. In public institutions the speaker rarely finds a nurse in large wards, the only attendants about the patients being a convalescent patient or an old pelican of an attendant. Professional care, one or many visits daily, favor a speedy convalescence. The early and late assurance that a patient is doing nicely does a world of good. Fresh beds, and the numerous little attentions from young, intelligent nurses favor comfort and confidence. It is surprising how much more cheerful patients are in private hospitals than in general, public or school institutions. The surroundings of general hospitals are generally depressing. Patients are eager or impatient to get home prematurely. In a well-managed private institution they are easily controlled and are willing to remain until they are fully convalescent. Hurrying patients out of general hospitals, one, two or three weeks after serious operations results in accidents and complications, post-operative sequelæ, difficult to correct. In private institutions there is added a well-directed rest-cure treatment, which gives pleasing results.

POSTRECTAL OR PRESACRAL GROWTHS.

DR. JAMES F. W. ROSS, Toronto, presented this paper, in which he reported four cases of postrectal tumors, excepting the osteomata. He discussed benign and malignant growths in this region; also their etiology, symptomatology and diagnosis and prognosis, and treatment. No novice should undertake the removal of a postrectal growth. It can only be done by one who has become familiar with pelvic surgery, and who is fully master of the situation. The operator must be full of resource and should be rapid in his movements. In making his incision into the abdominal wall he should always remember that it should be made high up and enlarged downward after the position of the bladder has been ascertained. The author has had no experience with the removal of such postrectal growths by enucleation from above. He is well aware that many thoughtful, prudent and daring surgeons do not hesitate to close the abdomen when this condition is met with. What should the technique of such an operation be? Should the mesorectum be incised close to or far away from the bowel? Should not the incision always be parallel to the vessels and not across them? How is the surgeon to accurately determine the situation of the ureter and, when discovered, how can he avoid it? How can he best guard against injury to the large vessels? In dealing with branchial cysts in the neck the speaker has followed them almost to the spine, but has then left the deep portion of the cyst wall, if it could be called a wall. It seems to him that he would have been forced to deal with the last case he reported of presacral cyst in exactly the same manner because the periosteum and so-called cyst wall were so intimately connected. It would not be wise to drain such a cavity into the peritoneal cavity, but would be more prudent to attack such cysts through the postanal tissues, perhaps with the removal of the coccyx. The solid tumors should always be attacked from the front.

THE LIGATURE AND THE VALUE OF DRY STERILIZED CATGUT.

DR. J. HENRY CARSTENS, Detroit, described a modification of the Boeckmann method of preparing catgut. The ligatures are prepared in the following manner: Catgut is put in ether for a few days, or a week, until the fat is all removed, and then cut in strips 18 or 20 inches long. Three of these are wrapped in fine tissue paper, then placed in a small envelope. The latter is closed and placed in a Boeckmann sterilizer and subjected to dry heat for three hours. A thermometer is kept in the apparatus, so that the heat is at least 300 F. At the expiration of that time the heat is shut off and the ligatures remain in the sterilizer without disturbance for twelve to eighteen hours, which gives any spores that may be present an opportunity to develop. The heat is again used, and the ligatures are again subjected to 300 F. They are now sterile. They are put in an envelope and can be carried that way in a satchel. When ready for use the end of the envelope can be torn off and the ligature, with the tissue paper, dropped into alcohol, the tissue paper removed and the ligature can be threaded and used. These ligatures are not slippery or greasy, as is the catgut prepared with different oils. The following points were emphasized: All buried sutures ought to be absorbable, and absolutely sterile. Chemicalized sutures are no more sterile than plain sutures. A chemicalized suture is harder and remains longer in the tissues. This latter is a disadvantage. If in a special case it is desirable that a suture should remain longer, dry sterilized kangaroo tendon can be used.

DR. FRANK F. SIMPSON, Pittsburg, Pa., read a paper on "Some Contraindications to the Intraperitoneal Use of Normal Salt Solution After Abdominal Section."

SIMPLE METHODS IN PELVIC SURGERY.

DR. JOHN B. DEAVER, Philadelphia, said that simplicity is the sine qua non of good surgery. It means safety, surety, confidence, neatness and a great saving of time, which is an essential factor in the success of many operations. The abdominal route is by far the more rational and therefore the best method of operating on the pelvic organs in the majority of cases, and offers several advantages that render it preferable to the vaginal. Radical operations per vaginam are, with few exceptions, the author thinks, to be discountenanced for several good and sound reasons: 1. The limited area for manipulation. 2. The impossibility of inspection without destruction and removal of the uterus, which should not be removed except for good and sufficient disease of that organ itself. 3. The marked increased liability to hemorrhage, both primary and secondary. 4. Increased danger of injuring ureters, bowel, bladder and large blood-vessels. 5. Danger of doing incomplete surgery. 6. Inability to repair satisfactorily injuries to bowel or bladder, etc. 7. Inability to deal safely with an inflammatory mass which involves the vermiform appendix.

THE TREATMENT OF FIBROIDS IN THE NON-PREGNANT UTERUS.

DR. E. F. FISH, Milwaukee, Wis., discussed the advisability of operating in all cases of fibroids of the uterus as soon as discovered, and leaves it an open question. He emphasizes the necessity of radical interference whenever the tumor or tumors are productive of pain, hemorrhage, pressure, constitutional impairment, unless there be existing disease, such as nephritis, diabetes, tuberculosis, etc. Of radical treatment, he thinks that myomectomy is the operation of choice, whether subserous, interstitial or subcutaneous, if it is single and can be enucleated without loss of tissue and the cavity closed and covered with peritoneum. Where several tumors exist the judgment of the operator comes into play. Many nodules mean many foci, and the author opposes myomectomy on the ground that some of these may not be discovered and later develop and demand another operation. He thinks, too, that under such circumstances the condition might, and likely would, call for future operation. The vaginal route is favored for small tumors, the abdominal for large ones. Hysterectomy is favored when the tumor involved so much uterine tissue that a proper closing of the tumor cavity is not possible, when the organ is studded with small tumors or nodes, when coexisting pelvic disease is present, when the growth is degenerating, when there are adhesions, when the tubes and ovaries are involved to such an extent that they must be sacrificed, when the disease is no longer local, when the change of life has occurred. He favors supravaginal amputation, leaving the cervix when sound, and panhysterectomy when the cervix is lacerated or diseased. He leaves the ovaries if sound, or if only one is sound he leaves that, or if only part of one, he leaves the healthy part. He believes in ignipuncture for small pea-like cysts, and leaves ovary. He is convinced that it modifies the nervous symptoms which usually follow complete removal.

ACUTE SENILE ENDOMETRITIS.

DR. L. H. DUNNING, Indianapolis, read a paper with this title, it being the second written by him on this subject, and in

which he reaffirms his belief that it is a distinct lesion that has not heretofore been adequately described. Since his previous paper he has encountered three more cases, two of which were attended by sanguineo-purulent discharges from the uterus, and one in which there was a large pelvic abscess. The inflammation tends to spread beyond the endometrium into the Fallopian tubes, ovaries and pelvic peritoneum, resulting in much suffering and ill-health, and not infrequently leading to so serious involvement of these structures as to demand operative procedures, such as extirpation of the uterus and appendages, or vaginal incision and drainage of a pelvic abscess. The chief cause of the lesion is infection. It is not definitely self-limited, but tends to become chronic and to lead to marked degenerative changes within the uterus. The treatment recommended is, in cases where the appendages are not involved, dilatation, curettage, the application of a mild caustic and prolonged drainage. When the uterine appendages are involved in the inflammatory process, extirpation of the uterus and appendages is advocated.

TUBO-OVARIAN ABSCESS AND HOW TO DEAL WITH IT.

DR. EDWIN RICKETTS, Cincinnati, Ohio, said that tubo-ovarian abscess is frequently caused by the proximity of the ovary to an infected Fallopian tube. The disease may be complicated by normal or ectopic pregnancy, intestinal, vaginal or vesicle fistulæ, and by appendicitis. In the dormant stage the author operates by the abdominal route; in the acute stage he explores by the abdominal route, and then decides between completing the operation in one or two sittings. Following abortion or delivery at full term, vaginal drainage, in his opinion, often puts the patient in better shape for an abdominal section later on.

The following officers were elected for the ensuing year: President, Dr. W. E. B. Davis, Birmingham, Ala.; first vice-president, Dr. Edwin Walker, Evansville, Ind.; second vice-president, Dr. A. Goldspohn, Chicago; secretary, Dr. William Warren Potter, Buffalo, N. Y., re-elected; treasurer, Dr. X. O. Werder, Pittsburg, Pa., re-elected. Cleveland, Ohio, was selected as the place for holding the next annual meeting; time, second Tuesday in September, 1901.

Omaha Medical Society.

RETRO-COLONIC ABSCESS.

DR. B. B. DAVIS reported a unique case of retro-colonic abscess. The patient presented the following history: He was eating pork, when he seemed to swallow a bone, which stuck in his throat and was apparently dislodged by copious draughts of water. He was comfortable for three or four days, but then had considerable pain in the right abdomen, with constipation, which resisted cathartics, and vomiting then ensued. Physical examination showed general tympanites with marked dulness on deep percussion from McBurney's point to the floating ribs. Further questioning brought out the fact that he had been feeling very poorly for several weeks and had progressively emaciated. Malignant trouble was suspected and an exploratory operation advised. Incision was made in the right linea semilunaris; the colon seemed normal, but a hard mass was found behind it and apparently intimately attached to it. After much manipulation, pus and fecal matter welled up from a large cavity. An opening was found in the colon. Drainage was used and the sinus entirely closed in about three weeks. The bone which had been swallowed was not found. The appendix and ileo-cecal junction were examined carefully and found normal. Recovery was uneventful.

GANGRENE FROM MILD CARBOLIC DRESSINGS.

DR. DAVIS also reported a case illustrating the danger of gangrene from mild moist carbolic dressings. A little girl of 7 or 8 had pulled off a "hang-nail." It gave her pain and she took a solution of carbolic acid which had been used to wash the wood-work of a sick-room, moistened a cloth with it and wrapped her finger in it. The dressing was kept on over night only. Dry gangrene took place, the bones of the finger were necrosed and amputation was necessary. Investigation showed that it was probable that not stronger than a 2 or 3 per cent. solution had been used. He felt that great caution should be used as to the use of moist carbolic dressings.

Drs. Lord and Gifford spoke of similar cases. Dr. Summers felt that most of the cases arose probably from carelessly-made solutions, in which even crystals of the acid got on the dressings.

HYSTERICAL CILIARY ALOPECIA.

DR. HAROLD GIFFORD reported three cases of this condition. Three years ago, two little girls were brought to him about the same time with eyelashes almost gone, and yet there was no ciliary blepharitis. He thought there was some trophic trouble, was much puzzled to explain it, and did nothing for them. Recently he saw one of them; the hairs were almost gone and the lids red and painful. It occurred to him that there might be hysteria in the case. He accordingly sealed up one eye with collodion; dressed it daily, used vaselin on both lids and found, after several days' observation, that a new crop was coming on the sealed-up lid. He was satisfied that the girl had continued to pull them out from the unsealed lid. The girl would not confess, but went home and had no further loss of hairs. He met with two similar cases a little later. One of these girls, 11 years of age, was entirely removed from the appearance of hysteria. The other girl, of 14, pulled out the lid-hairs and the eyelashes also. She confessed that she had seen her father pulling out "wild-hairs" and imitated him.

In the discussion which followed the question was raised whether pulling out hairs was a "habit" or an evidence of hysteria. Dr. Gifford was of the opinion that it was not a habit because it was painful. It could be stopped without difficulty, merely by telling the patients how wrong and harmful it was and threatening to notify the parents if it was not stopped.

PLACENTA PREVIA.

DR. J. E. SUMMERS, JR., said that he had been called on by a doctor who reported himself as completely worn out and needed surgical assistance, and asked him to come prepared to do a Cesarean section. He went, found a woman in profound shock and pulseless; the bed soaked with blood. Examinations showed the os dilated sufficiently to admit the tips of two fingers and a centrally-implanted placenta beyond. He dilated rapidly, probably for six or eight minutes, went through the placenta, grasped a foot, brought it down, delivered the trunk, put the forceps on the after-coming head and had the satisfaction of saving the mother, but the child was dead.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, September 22.

1 Multiple Metastatic Sarcoma of the Lungs. Stephen S. Burt.
2 *Gynecology, Its Present, Past and Future. Howard A. Kelly.
3 *The Chemical Examination of Feces for Clinical Purposes. A. E. Austin.
4 *Chronic Ear-Vertigo (Meniere's Disease); Its Mechanism and Surgical Treatment. Charles H. Burnett.
5 *A New Hemoglobinometer for the Examination of Undiluted Blood. Arthur Dare.
6 Acute Seminal Vesiculitis. Henry H. Morton.
7 The Injured Tramp; Who Is Responsible for Him? F. Julian Carroll.

New York Medical Journal, September 22.

8 *The Treatment of Chronic Cystitis in the Female by Curettement of the Bladder and Instillations of Corrosive Sublimate. Charles G. Cumston.
9 *Generalized Tuberculous Lymphadenitis, With the Clinical and Anatomical Picture of Pseudoleukemia; The Study of a Case. (Continued.) Thomas R. Crowder.
10 *Report of Three Cases of Ascending Urinary Infection Due to the Bacillus Pyocyaneus and the Proteus Vulgaris. George Blumer and August Jerome Lartigau.
11 Membranous Enteritis. H. F. Slifer.

Boston Medical and Surgical Journal, September 20.

12 *Treatment of Pott's Disease After the Development of the Deformity. Edward H. Bradford and F. J. Cotton.

13 *Joseph W. England's Fat-Free Tincture of Digitalis. Elbridge G. Cutler.
14 *Knee-Joint Surgery for Non-Tubercular Conditions. Joel E. Goldthwait.

Medical News (N. Y.), September 22.

15 *Studies in Surgical Technique, With a Report on Operative Surgery at the City Hospital for 1898 and 1899. George Emerson Brewer.
16 *Toxicity Versus Septicity in the Infectious Pathogenic Bacteria. Eugene Wasdin.
17 *Total Extirpation of the Ureter. Willy Meyer.

Medical Record (N. Y.), September 22.

18 *The Phelps Operation for Hernia and Method of Closure of Abdominal Wounds. A. M. Phelps.
19 *To What Extent Does "Rheumatic and Gouty Diathesis" Enter Into Traumatic Joints (Sprains and Bruises) Septic and Gonorrheal Joints, Acute Articular Rheumatism, Neuropathic Joints, Arthritis Deformans (Osteoid, Rheumatoid), as an Etiologic Factor? What Is the Scientific Basis for Such a Term? William H. Porter.
20 *Primary Carcinoma of the Parovarian. B. S. Talmey.
21 Simple Fracture of the Shaft of the Femur, With Report of Two Cases of Delayed Union. William H. Shipps.

Cincinnati Lancet-Clinic, September 22.

22 *The Diagnosis and Treatment of Metatarsalgia. Albert H. Freiberg.
23 *Alkaline Saliva. M. H. Fletcher.
24 Occipito-Posterior Presentations. H. V. Sweringen.

St. Louis Medical Review, September 22.

25 Relation Between Parturition and Gynecologic Diseases. Hugo Ehrenfest.

Medical Age (Detroit), September 25.

26 Ulceration of the Rectum, With External Piles; Combined Internal and External Piles. Joseph M. Mathews.
27 Gastric Disorders Producing Constipation and Diarrhea. John P. Sawyer.
28 Carbuncle, With Report of a Case. George W. Griffiths.

Pediatrics (N. Y.), September 15.

29 Peritonsillar Abscess in Children, with Report of Case. L. T. Royster.
30 The Lewis Memorial Cottage for St. John's Guild, at Newdorp, Staten Island, N. Y. Walker and Morris.
31 A Neglected Case of Pott's Disease of the Spine Under Treatment with a New Spinal Brace. Edward A. Tracy.

Iowa Medical Journal, September 15.

32 Some of the Indications for and Sequelæ of Hysterectomy. E. E. Dorr.
33 Suppurating Cervical Lymphatics. F. L. Rogers.

Archives of Pediatrics (N. Y.), September.

34 *Enteric Fever in Childhood. A. D. Blackader.
35 *Exclusive Soup Diet and Rectal Irrigations in Typhoid Fever. A. Seibert.
36 Two Cases of Fatal Lead Poisoning. Allen Baines.
37 *General Subcutaneous Emphysema. A. C. Cotton.
38 A Case of Hysteria with Laryngeal Manifestations in a Boy of Eleven Years. C. Herman.

St. Louis Medical and Surgical Journal, September.

39 The Value of the Vegetable Digestive Ferment in the Treatment of Chronic Alcoholism. John McDonald.
40 The Bloodless Treatment of Congenital Dislocations of the Hip-Joint. Adolph Lorenz.
41 Alopecia Areata. Norman Walker.
42 Diagnosis and Etiology of Beri-Beri. Albert S. Ashmead.
43 Artificial Food. A. Jacobi.

Annals of Surgery (Philadelphia), September.

44 *Cubitus Varus; or "Gunstock" Deformity Following Fracture of the Lower End of the Humerus. Lewis A. Stimson.
45 *The Results of Castration and Vasectomy in Hypertrophy of the Prostate Gland. Alfred C. Wood.
46 *Massage in the Treatment of Recent Periarticular Fracture. George Woolsey.
47 *Excision of the Wrist by a Modification of Mynter's Method. William J. Taylor.
48 The Ileocecal Orifice and Its Bearing on Chronic Constipation, with Report of Two Cases Relieved by Operation. William J. Mayo.
49 Hernia of the Bladder Through the Pelvic Floor from the Traction of a Subperitoneal Fibroma. Francis B. Harrington.
50 *On the Influence of Anesthesia on the Effect Produced on the Circulation and Respiration by Irritation of a Sensory Nerve. Simon Pendleton Kramer.
51 *The Pathology of Fracture of the Lower Extremity of the Radius. (Concluded.) Frederic J. Cotton.
52 *Tetanus. (Continued.) Alexis V. Moschcowitz.

American Medical Compend (Toledo, Ohio), September.

53 Infection from Bacillus Aerogenes Capsulatus, with Report of a Case. J. H. Jacobson.
54 The Case System in Teaching Gynecology. Byron Robinson.

Brooklyn Medical Journal, September.

55. *Some Problems Concerning Nervous Disease. F. W. Langdon.
56. Abdominal Section: Some Points in the Management of Difficult Cases. L. Grant Baldwin.

Austin Flint Medical Journal (Mason City, Iowa), September 15.

57 Etiology and Prophylaxis of Typhoid Fever. Elmer G. Dennis.
58 Homeopathic Department of State University. J. W. Kime.

Chicago Medical Recorder, September.

59 *On the Surgical Treatment of Gall-Stones. Maurice H. Richardson.
60 *On Latent Infection and Subinfection, and on the Etiology of Hemochromatosis and Pernicious Anemia. (Concluded.) J. George Adami.
61 The Good Nurse. James H. McBride.
62 *The Modern Treatment of Face Presentations. Gustav Kolischer.
63 *The Nature of Neurasthenia: A Study of the Recent Literature. Rosalie M. Ladova.

Medical Sentinel (Portland, Ore.), September.

64 Diagnosis of Smallpox. Wallace W. Potter.
65 Mastoid Diseases and the Mastoid Operation. Arthur H. Coe.

The Laryngoscope (St. Louis), September.

66 *Vibratory Massage in the Treatment of Progressive Deafness, with Especial Consideration of My Elastic Pressure-Probe. A. Lucae.
67 *A Plea for an Early Operation in Bilateral Abductor Paralysis of the Vocal Cords. Norton L. Wilson.
68 *Slight Irregularities of the Nasal Septum. Edwin Pynchon.
69 *Nasal and Post-Nasal Synechiæ. J. Price-Brown.
70 Some Remarks on the Etiology of Retropharyngeal Abscess, with Report of Cases. M. R. Ward.
71 Sarcoma of the Naso-Pharynx Cured by Injections of Formalin. John A. Thompson.

Woman's Medical Journal (Toledo, Ohio), September.

72 Purpura Hemorrhagica Attended with Hematidrosis Complicating Pregnancy—Report of Case. Alma L. Rowe.
73 A Study of Heredity among the Women in the State Hospital at Clarinda, Iowa. Anne Burnet.

Medical Council (Philadelphia), September.

74 *The Use of Hot Normal Salt Solution to Cause Absorption of Pleural Effusions. John A. Robison.
75 *Hallux Valgus. Lester Keller.
76 *Common Food Adulterations. A. H. P. Leuf.
77 The Telephone in Country Practice. J. Beverly Deshazo.
78 Preliminary and Minor Railway Surgery. (To be continued.) J. M. Salmon.
79 On Suggestive Therapeutics, Magnetic Healing and Osteopathy. T. H. Line.
80 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.

Richmond Journal of Practice, August

81 The Care of the Bowels Prior and Subsequent to an Abdominal Section. Hunter Robb.
82 *The Angiotribe in Abdominal Surgery. Hugh M. Taylor.
83 Some Cases of Erysipelas at Southwestern State Hospital. Z. V. Sherrill.

Texas Medical Journal, September.

84 Some Surgical Cases. J. S. Price.
85 The Old Man Must Go. F. M. Davis.
86 Scarlatina or Something Similar. W. T. Evans.
87 Post-Partum Hemorrhage. S. Merriwether.
88 Neurasthenia. Virginius W. Gayle.
89 Uric Acid Toxemia. Arch Dixon.

Medical Herald (St. Joseph, Mo.), September.

90 *New Method of Performing Trachelorrhaphy. P. C. Palmer.
91 The Leucocytes in Cytodieresis, Leuco-Cytogenesis and Leucocytosis. L. H. Warner.

Medical Bulletin (Philadelphia), September.

92 Psoriasis—Epithelioma. John W. Shoemaker.

American Journal of Surgery and Gynecology (St. Louis), September.

93 The Recognition of Syphilis by Examination of the Blood. Benj. F. Gilmor.
94 Myomectomy During the Sixth Month of Pregnancy—Recovery. Eugene R. Lewis.
95 Acute Hepatitis, Cirrhosis of the Liver and Leucocythemia Successfully Treated by Abdominal Section. Emory Lanphear.
96 Two Factors in the Etiology of Uterine Cancer. Thomas Barker Eastman.
97 Stricture of the Esophagus. C. P. Thomas.
98 *Perforation in Typhoid Fever from an Operative Standpoint, with a Report of Cases. Gwilym G. Davis.
99 Wiring Patella, Excision of Upper Jaw, Removal of Appendix. (To be continued.) Henry A. Barr.
100 Injuries of the Scalp. H. C. Fairbrother.

American Therapist (N. Y.), August.

101 *Effect of Normal Serum, Antitoxin and Diphtheritic Poison Upon Blood and Tissue. Geo. F. Cott.
102 *Feeding vs. Starvation in Diseases of the Stomach. Frank H. Murdoch.

Southern Medical Journal (La Grange, N. C.), August.

103 *The Angiotribe in Abdominal Surgery. Hugh M. Taylor.
104 Pyrexia in Infancy. J. W. P. Smithwick.
105 The Development of Chemical Synthesis. J. W. Wainwright.
106 The Antiseptic Treatment of Typhoid Fever, with Clinical Reports. J. W. P. Smithwick.

AMERICAN.

2. **Gynecology, Its Present, Past and Future.**—Kelly reviews the past of gynecology, shows how we have lived through the various fads and theories, what discoveries have been epoch-making and beneficial and thinks that in the immediate future diseases of the urinary tract will first take our attention and later will follow the better understanding of diseases of the rectum and gall-bladder. There will be a closer connection between gynecology and surgery in the immediate future.

3. **Chemical Examination of Feces.—The methods of** chemical examinations of the feces are elaborately described by Austin, who shows what is likely to be found and its significance.

4. **Meniere's Disease.**—According to Burnett, chronic ear-vertigo or Meniere's disease is due to a mechanical cause consisting chiefly in impaction of the stapes in the oval window, and removal of this impaction and liberation of the stapes will cure the disease. The removal of the incus breaks the retractive force of the tensor tympani and malleus exerted through the incus upon the stapes, and the latter bonelet is liberated. In chronic purulent cases it is necessary to excise the remnants of the diseased membrana and the malleus and incus with their synechial bands in order to liberate the stapes. This incision of the diseased ossicles also has the effect of curing the chronic suppuration and preventing antrum and mastoid disease. His operation in brief consists, after sterilizing the auditory canal and membrana, and illuminating with electric light, in making, when the membrane is intact, the initial incision close behind the short process of the malleus and following the periphery closely backward and downward to a point below a line drawn horizontally through the umbo of the membrana. It is usually followed by little or no bleeding. The flap which is thus made is turned inward toward the promontory with a probe armed with sterilized cotton. If there is no bleeding, the incus-stapes joint is seen as soon as the flap is pushed aside; if there is bleeding, it should be checked with a sterilized mop. The incus being now in plain sight, it should be gently disarticulated from the stapes by drawing the former outward and downward by means of an incus-hook knife passed behind its long limb. When this is done the long limb of the incus should be grasped by special forceps and drawn very cautiously downward and outward into the auditory canal and then removed entirely from the ear. When this is accomplished the operation is finished. The slight bleeding that sometimes occurs in the chronic catarrhal cases requires no attention. The meatus should be stopped with sterilized cotton and the ear let alone for 24 or even 48 hours, unless the cotton in the meatus gets moist with blood or serum. If this occur the cotton should be removed and dry cotton inserted. There is to be no after-treatment in such cases, as all is accomplished when the incus is removed. As a rule there is no reaction in these cases, and the wound in the membrana heals by first intention. Sometimes a slight reaction has occurred, shown by a little pain and some mucopurulent discharge. But this is healed in a few days by simply mopping the ear with sterilized cotton and a solution of formalin—1 to 1000—and such reaction has never had any bad effect upon the result of the removal of the incus in checking the vertiginous attacks in any of his cases. He has never encountered a serious reaction after the operation, either in the chronic catarrhal or in the chronic purulent class. In purulent cases the operation is somewhat different, the ossicles are usually plainly visible. The incus should be detached and removed and the remnant of the diseased membrane and malleus completely incised. Hemorrhage is apt to be somewhat troublesome and constant mopping may be required. After the operation the ear requires syringing with bichlorid solution—1 to 500—and the ear should not be stopped with cotton, but allowed to discharge. The subsequent treatment may be that indicated in a case of chronic purulent otitis media. Burnett has performed this operation in twenty-seven cases of chronic ear-vertigo and in no instance has it failed to give relief.

5. **New Hemoglobinometer.**—Dare describes a new instrument for determination of hemoglobinuria, the advantages of which he briefly recapitulates as follows: An immense amount of labor is saved by dispensing with dilution and its possible errors; leucocytosis can not influence the results; adjustment is made for the color curve; the color shades for comparison are made more decided; the pipet is absolutely cleaned; and, most important of all, the readings are uniform and accurate and depend upon principles which allow the best analysis of color shades in the shortest time. Results within 1 or 2 per cent. are obtained with a certainty hardly obtainable with other instruments. Clinical patients who took a lively interest in the examination of their own blood, when asked to make comparisons, rarely exceeded a variation of 2 per cent. in successive trials. In the case of shop-girls who were accustomed to match colors the variation was still less. In considering this instrument, its simplicity, its compact construction, lightness, and portability, as well as the accurate results obtainable with it, should be taken into account.

8.—See abstract in THE JOURNAL of September 29, p. 838.

9. **Tuberculous Lymphadenitis.**—Crowder concludes his paper by reviewing the literature and finds that while we are not warranted in assuming that all pseudoleukemias are tuberculous, it is at least established that tuberculous lymphadenitis may give rise to their symptom-complex and anatomical findings. Enough examples have been recorded to show that it is not altogether an infrequent condition.

10. **Ascending Urinary Infection.**—Blumer and Lartigau report cases showing the ascending infection by the bacillus pyocyaneus of the urinary passages, a condition which has not been previously reported, nor has the association of proteus vulgaris with the bacillus pyocyaneus been heretofore noted. Several cases are reported in detail; in the first, the main symptoms were referable to the nervous system, the most important of these being partial paraplegia, loss of reflexes, anesthesia and analgesia, without any cord lesions to account for them. The subsequent development of a bed-sore and its infection by the bacillus pyocyaneus is of interest. It seems probable that this was due to urinary infection. Case 2 is a simple case of ascending urinary infection following stone in the bladder. Case 3 gives a clinical picture of hemorrhagic septicemia probably incidental to the puerperal streptococcus infection. In these cases one striking feature was the comparative non-virulence of the isolated bacillus pyocyaneus, which the author attributes to the fact that the process was essentially chronic. In the ordinary pyocyaneus infections, which are acute, it is rare to find non-virulent forms.

12. **Pott's Disease.**—Bradford and Cotton report experiments on the effect of forcible attempts to reduce deformity in Pott's disease performed on cadavers and models, including also the questions of retention after correction, and discuss the subject. They also show the effects of treatment as personally observed in the practice of the late Dr. C. F. Taylor. In conclusion, they remark that the correction or rectification of the curve in Pott's disease is to be considered in every case of active disease with a deformity. The employment of force should depend on the pathologic conditions and not on the extent of the curve. Force should be used with great reserve. Improvement of the curve is to be attempted wherever the spinal column can be made straighter without great force. The main dependence, however, for ultimate success remains in the surgeon's careful, continued, and thorough employment of retention appliances which hold the spine in the straightest possible position for a sufficient length of time for consolidation of the diseased bony structures. Success is to be won more by careful attention to detail than by an operative attempt.

13. **Digitalis.**—Cutler calls attention to the fat-free tincture of digitalis devised by Joseph W. England, chief druggist of the Philadelphia Hospital, to meet the serious drawbacks in the use of infusions of digitalis when large doses are required

to produce the desired action on the heart and kidneys. For the past five years this preparation has replaced the official tincture in the wards of the Philadelphia Hospital, and Cutler here reproduces the clinical statements as to its non-irritating properties by Dr. D. E. Hughes, chief resident physician. Several cases are reported and in all the fifteen cases the fat-free was compared with the official tincture under the observation of Mr. England and Dr. F. A. Sherer. The author himself has not used the preparation long enough in the Massachusetts General Hospital to obtain any new data in regard to its action, but his opinion has been confirmed with reference to its usefulness. This tincture does no more than the official tincture will do therapeutically, but it does not produce the nausea and digestive disorders so frequently observed with the latter. He believes it fills an important place and reproduces Mr. England's observations to call attention of the profession to its value.

14. **Knee-Joint Surgery.**—The title of this paper is self-explanatory, it being a report of thirty-eight operations for synovial fringes, injured semilunar cartilage, loose cartilage, coagula, exploratory incision, etc. The purpose of the paper is to show that operations on joints need not be feared more than operations elsewhere and to urge their importance not only to relieve a definitely recognized condition, but also for exploratory purposes in doubtful cases.

15. **Surgical Technique.**—The results of advances in the surgical technique during the past five years in the city hospital are given by Brewer as follows: First year, number of operations, 147; deaths, 8; mortality percentage, 5.4 per cent.; infection occurring in clean cases, 39 per cent. Second year, number of operations, 109; death-rate, 8.2 per cent.; percentage of infection in clean cases, 9 per cent. Third year, number of operations, 165; death-rate, 9 per cent.; percentage of infection in clean cases, 7 per cent. Fourth year, number of operations, 191; death-rate, 6.2 per cent.; percentage of infection in clean cases, 8.5 per cent. Fifth year, number of operations, 168; death-rate, 7.1 per cent.; percentage of infection in clean cases, 3.2 per cent. From these observations the writer thinks that he is justified in saying that, if our technique is perfect, no unfavorable suppuration is to be expected and, while he is willing to admit the decreased resistance of the class of patients received and their greater liability to infection, still he thinks that by a perfect, though perhaps somewhat exaggerated, system, the results are as good as in any other hospital.

16. **Toxicity Versus Septicity.**—The action of bacterial infection is discussed by Wasdin, who divides it into two types, toxic and septic, the former including those cases which are due to toxicity from the seat of infection and the latter, those where there is actual presence in the blood of the bacteria themselves. Of the former type, diphtheria, tetanus and cholera are characteristic, and in diphtheria the colony rests always at its primary seat, disposing of its toxin through the system, and there is a wonderful local reaction, the leucocytes quickly forming a barrier of protection in the so-called "false membrane." In tetanus and cholera there is no such local reactionary collection of leucocytes, but there is no invasion of the circulation, no true septicemia. Influenza most probably is to be classed with these, though the isolation by Pfeiffer of his bacillus from the blood in some cases may require it to be classed with the modified septicemias. The infections which develop septicemia more or less primarily are lobar pneumonia due to the pneumococcus, typhoid fever, bubonic plague, tuberculosis and yellow fever. The author shows how each of these is produced, but doubts whether there are any purely septic infections as clearly septic as diphtheria is toxic. He especially discusses plague and yellow fever and maintains that both toxicity and septicity coexist in many of the infectious pathogenes. The law which governs the formation of the types of cases encountered in all of them is that the infection having taken place, the type of the disease must depend upon the development in the infecting organisms of the inherent qualities of toxicity and septicity; that if toxicity preponderate, there will result the toxemias, and if septicity be the more pronounced, the septicemias will be produced, since these qualities coexist in each infective germ, the one or the other being exhibited in greater perfection according to environment. He calls attention to the fact that this intection characterized by mixed toxicity and septicity responds but slightly to sera, while the most toxic, such as diphtheria and tetanus, and the most septic, such as plague, have been thus benefited. He thinks it likely that until it is possible to separate these qualities and to utilize the one desire, it will be impossible to produce a serum of anything like the beneficence of diphtheria antitoxin.

17. **Extirpation of the Ureter.**—This, as advised by Willy Meyer, is the complete removal of the entire ureter from just below the pelvis of the kidney to its entrance into the vesical wall. The difficulties of the operation are noted and the indications recognized for it are discussed. 1. In malignant tumor of the kidney. As far as he had learned, no such case of total ureterectomy has been reported, and it will generally, in such cases, be a partial one. 2. In tuberculosis of the kidney he doubts whether primary total ureterectomy is often indicated, though a few cases have been reported in which it was seen during nephrectomy that the ureter was very seriously affected and its partial removal would have been an incomplete operation. In the majority of these cases, however, he thinks the ureter will take care of itself if nephrectomy is performed early enough in the disease. He believes that the cystoscope might often furnish the best means of determining the indication for secondary ureterectomy. 3. Another indication would be where the original wound breaks open again and a sinus establishes itself. 4. Pyonephrosis and pyonephrotic stone kidney. It was a case of this kind which led to the origin of this paper. The case shows what mischief can be produced by a single renal calculus which can not pass the ureter, and also demonstrates the necessity of always testing the patency, especially when performing nephrotomy and nephrectomy. If the stone can be reached by the lumbar wound the surgeon should try to push it up and extract it, but if at the lower end of the ureter the organ ought to be exposed extraperitoneally if the patient's condition permits. If it does not it will probably have to be done later. He does not believe that stricture without the presence of stone which was the original cause will often necessitate the extirpation of the ureter after the removal of the kidney. In conclusion he says: "By making it a rule always to test the patency of the ureter down into the bladder when doing a nephrotomy or a nephrectomy, and then, according to the result of the examination, adding immediately or later the necessary treatment of, or operation on, the ureter, many a kidney will be saved from extirpation and much trouble be spared our patients."

18. **Hernia.**—Phelps illustrates his method of operating for hernia with the silver-wire pad. He thinks it necessary to make up for the loss of resistance that has resulted from the chronic pressure and distention by the hernia, and the material required must be one that will not be absorbed and be so elastic that it will bend with each movement of the body. The wire mattress which he puts in place is left and becomes encysted and makes that portion of the abdomen even stronger than the rest. If the wire mattress becomes infected, which seldom happens, he would fill the wound with pure carbolic acid, after curetting out the infected part, and afterward wash it with pure alcohol, which is a perfect antidote, and then allow the wound to heal by granulation.

19. **Rheumatic and Gouty Diathesis.**—According to Porter, the predisposing factors in the development of so-called gout, or rheumatism, are that the intake of nutritive pabulum is larger than the system can properly oxidize or a condition that so reduces the oxidizing capacity of the animal economy that the small amount of food taken could not be properly oxidized. Added to this, in determining the special type, are the action of the bacilli and proteids in the alimentary canal and the formation and absorption into the system of toxic products. These factors together determine the nature of the

lesions, the symptoms, abnormalities and biproducts from which we are able to differentiate the different forms of these suboxidized conditions. There are also a few other things that can not be overlooked, as changes in temperature, hygienic surroundings, nervous disturbances, etc. His arguments are elaborate and he goes into the subject in detail, especially as regards the different forms of rheumatic and gouty affections.

20. **Carcinoma of Parovarian Body.**—From a study of a specimen that was thoroughly examined microscopically and otherwise, Talmey concludes that the growth found was certainly a primary cancer, and he argues to show how any connective-tissue proliferation in the broad ligaments may give rise to cancerous growths. He believes that malignant parovarian tumors are not rare and that if all the so-called ovarian tumors were systematically examined under the microscope a great part of them would be found to be of parovarian origin.

22. **Metatarsalgia.**—This disorder, which was described by Morton in 1876, has been a subject of discussion as to its exact pathologic mechanism since the first. The author rejects Morton's explanation that it is due to pressure on branches of the external plantar nerve between the heads of the fourth and fifth metatarsals, and argues at length in favor of the following propositions: 1. That metatarsalgia is a symptom of several pathological conditions of the foot, and sometimes possibly of constitutional disorder. 2. That it is possible to completely relieve many cases without operative interference by establishing an exact diagnosis of the underlying condition and directing the treatment accordingly.

23. **Alkaline Saliva.**—The gist of this article appeared in THE JOURNAL, August 25, p. 484.

34. **Enteric Fever in Childhood.**—Blackader reports the results of observation of 100 cases of typhoid in infants, pointing out the peculiarities and the agreements with the disease as noted in adults. As a rule, the typhoid is milder under the age of 15, the duration in the great majority of cases being less than three weeks. Above 15 it generally follows the course in adults. The treatment which he advises in the majority of cases is the systematic use of water, but he does not think it necessary or desirable that so low a temperature should be employed as in the case of older persons, nor should this treatment be confined, as directed by Brand, to cases where the fever reaches 102.4 F. All sudden and severe shocks should be avoided. Even if the pulse falls below 102, he thinks the regulated use of the cool bath once or twice a day strengthens the heart's action and helps to more rapid convalescence.

35. **Soup Diet and Rectal Irrigations in Typhoid.**—On the ground of the probability that milk favors germs, Seibert has attempted the use of other fluids, such as soups. At the beginning of the attack he gives plain cold water for twenty-four hours after the initial purge, then soups made of meat-broth, containing oatmeal, barley, rice and peas, strengthened, of course, with spices, and later lentil soups with eggs. Five meals in all were given during the day preceded by 5 to 15 drops of diluted hydrochloric acid, unless hyperacidity prevailed. No other medication was employed, but two to four warm-water enemata were given daily. The results were the disappearance of headache, delirium, nausea, insomnia, tympanites, vomiting and fur on the tongue; the appetite returned frequently on the fourth day of treatment, even when considerable temperature existed. Excessive diarrhea even disappeared invariably within one week. In all uncomplicated cases the temperature began to decline within twenty-four to forty-eight hours after the beginning of treatment, and invariably reached the normal within ten to twelve days. In cases complicated by pneumonia, nephritis or phlebitis, the temperature generally remained in accord with this condition until it disappeared, while the cerebral, gastric and intestinal disturbances subsided as rapidly as in uncomplicated cases, excepting only the anorexia. Complications, when not present at the start, were very rare, usually appearing in the first two days. Intestinal hemorrhage was noticed in three cases, none ending fatally; perforation did not occur. In all of the 153 cases treated in this manner there were seven fatalities; three patients were brought in moribund and four had complicating bilateral pneumonia.

37. **General Subcutaneous Emphysema.**—Cotton reports a case of this condition and remarks on its rarity and its fatality. He suggests that relief of the cough and the restriction of respirations were indicated and that incision and drainage are possibly advisable.

44. **Cubitus Varus.**—This condition, which consists in marked permanent adduction of the forearm, has been studied by Stimson, both in specimens and by skiagrams. He says he can not escape the conclusion that the close resemblance in a chance collection of six cases and their easy experimental reproduction, with almost total absence of specimens showing lesions of another kind, justify the belief that the common anatomical cause of cubitus varus is not ascent of the internal or descent of the external condyle after fracture extending into the joint, but that on the contrary it is an angular displacement of the entire lower end of the bone after a supracondyloid fracture, or of its lower portion after a fracture which is practically a partial separation of the cartilaginous epiphysis, especially on its outer side. He suggests for the correction of the deformity pressure outward and downward against the olecranon in rectangular flexion of the joint, or adduction of the fully extended forearm and maintenance of the latter position for a week or two, which would probably be the surest means of preventing recurrence, but it should be combined with confinement to bed.

45. **Castration and Vasectomy.**—Wood has collected a large number of cases where castration or vasectomy was performed for prostatic enlargement, from which he concludes that there is ample reason for advising and performing one of these operations in suitable cases.

46. **Massage in the Treatment of Periarticular Fracture.**—Woolsey has used this method in a number of forms of periarticular fracture and with his increasing experience he is more than ever satisfied with the results. He says he has seen no advantage in discarding splints in the early part of the treatment, as they give a sense of security. We should pay particular attention to the position of the limb in carefully reducing any deformity, and keeping it reduced during massage and between the periods of massage when the limb is in the splint. If this is not possible from the outset, after a preliminary massage, a plaster cast should be applied and kept on from eight to fourteen days, when massage should be commenced. The results in these cases are better so far as position is concerned, equally as good functionally and nearly, if not quite, as quickly obtained as when massage is employed from the first. If, again, after massaging for some time, the position is not found to be correct, or, if after three weeks quite firm union has not taken place, he believes in using the plaster splint for from eight to fourteen days, though the functional result may suffer some delay. He thinks the treatment of fractures, especially articular and periarticular fractures, with the above restrictions, by massage and passive motion gives the best and quickest results as to bony union and function of any method in vogue.

47. **Mynter's Method of Wrist Excision.**—Mynter's method is slightly modified from that originally proposed by Studsgaard, and consists in making a longitudinal incision between the third and fourth metacarpal bones, thus opening up the wrist-joint between the os magnum and unciform bones and between the semilunar and cuneiform bones. Mynter's modification consists in splitting the hand between the second and third metacarpal bones and thus entering the wrist between the trapezoid and os magnum and between the scaphoid and semilunar bones. The dorsal incision reaches up to the radius and the palmar incision not farther than the base of the thenar of the thumb. Taylor has tested this method and reports a case, with skiagrams and photographs of the results, which seem very good.

50. **Anesthesia and Circulation and Respiration.**—Kramer has experimented on animals as to the effect produced on the circulation and respiration by irritation of a sensory nerve during anesthesia. The methods are described, and in one dog, where no anesthesia was employed, the cardiac respiration was increased by 50 per cent., and the inspiratory effect was greatly increased. The cardiac rhythm was also increased approximately to the same extent and the blood-pressure invariably rose. This experiment was not repeated, as others had found the same results. When the animals were deeply anesthetized, so that there was no corneal reflex, the results were very different. In most cases the irritation of the central end of the crural nerve was without effect either upon the circulation or respiration. When the animal, however, was only partially anesthetized, the respiration became greatly accelerated and increased in amplitude, while there was a marked fall in the blood-pressure, which may possibly have been preceded by a slight rise. The conclusion drawn from these experiments is that severe vasomotor shock is more liable to follow operation with partial anesthesia than when done under complete insensibility.

51. **Fracture of the Lower End of the Radius.**—This paper by Cotton, which is concluded from a former number, is too detailed to be abstracted satisfactorily and the reader is referred to the original.

52. **Antitoxin Treatment of Tetanus.**—Moschcowitz's article gives additional cases, ending with No. 290, of tetanus reported which were treated with antitoxin. He finds a mortality of 40.33 per cent. Of the cases with a period of incubation of less than 5 days, 9 recovered and 41 died—a mortality of 42.42 per cent.; of 114 cases with a period of incubation from 5 to 10 days, 52 recovered and 62 died—a mortality of 54.38 per cent.; of 64 patients with a period of incubation from 10 to 15 days, 52 recovered and 12 died—18.75 per cent. mortality; of 24 cases with a period of incubation over 15 days, 20 recovered and 4 died—20 per cent. mortality, and of 55 cases with unknown or unreported incubation, 30 recovered and 25 died—a mortality of 45.45 per cent. The total number treated by intracerebral injections was 48, of which 23 recovered and 25 died, or a mortality of 52.08 per cent.

55. **Some Nervous Problems.**—Langdon first notices the neuron theory, the utility of which he points out, and also the fact that it was somewhat anticipated in 1874 by a personal friend of his, Dr. Samuel Spahr Laws, of Bellevue Hospital Medical College, in a graduation thesis. The first problem which he offers relates to locomotor ataxia and its causation. This, he suggests, may be only a result of heredity or acquired vulnerability of the peripheral sensory neuron system. The tabetic type of individuals has impressed itself upon him. There is a marked similarity in the build, temperament and nutritional defect in the great majority of these patients. He reasons that some other factor than syphilis must be predominant and suggests, rather ingeniously, the assumption of the upright position by man requiring greater delicacy and equilibrium and consequent tax on the neurons, with the special conditions of civilization as making greater strain upon the organs. His theory as carried out involves the idea that chronic degeneration or tabes must commence high up in the cord or in the oblongata. Another disease where motor neurons are especially affected is primary lateral sclerosis, of which he recognizes a purely acquired form occurring in late maturity. He applies the rule "late to develop, early to decay" and thinks that, according to this, it should be more common, and the reason of its rarity is man's indisposition to exert the neuron. All the cases he has observed were in men who had seen military service with its special fatigue and exertions. Another condition noticed is combined sclerosis. He concludes his article with two propositions which he thinks demand recognition: 1, that the most important problems we have to solve are those connected with the individual differences in patients and their environments; and 2, that since it is mainly through neurons that these differences are manifested, both in a psychic and somatic sense, in the expression and elucidation of symptoms as well as in the action of remedies, the solution of the corresponding problems rests largely with the neurologist and psychiatrist. The paper is difficult to abstract without great elaboration, but it is suggestive and interesting.

59. **Gall-Stones.**—Richardson's article is a very lengthy discussion of very many of the surgical aspects of gall-bladder surgery and is too detailed to be abstracted.

60. **Latent Infection.**—Adami takes up the subject of the existence and fate of bacilli in the blood and tissues, and from a thorough discussion of the researches that have been made comes to the following conclusions: There is a passage of leucocytes through the mucosa of the alimentary tract and these, while in part destroyed, in part find their way back, bringing with them food particles, among which may be bacteria present in the intestinal contents. During the active congestion which accompanies digestion the passing out and return of these cells is increased and the germs find their way either through the lymphatic canals or portal system. In either of these they tend to be destroyed by leucocytes. By the employment of adequate methods it can be demonstrated that even in the healthy kidney and liver, in a large number of cases, in rabbits at least, a certain number of microbes are living in any one moment, so that cultures can be obtained from the organ on its removal from the body. It is probable, further, that in health a certain number of bacteria which have not been destroyed by leucocytes pass through the liver into the systemic blood. These tend to be removed by the kidneys and possibly by other glandular organs. In any case the ordinary methods at present employed in making cultures from the blood are insufficient to detect their presence unless they are in such number or of such a nature that they are not altogether destroyed by the bactericidal action of the shed blood. From these conclusions he infers that there is a latent infection—what the French term a latent microbism—that is, a condition in which residing germs are, under favorable conditions, excited into activity. This seriously involves surgical operations as well as other pathologic conditions. He also concludes that at the moment of death these bacteria are multiplied and also that there is a condition of what he calls subinfection in which the tissues destroy germs, but from constant invasion become worn out and chronic or acute infection may supervene. He illustrates his views by the conditions of hemochromatosis and pernicious anemia.

62.—See abstract in THE JOURNAL, xxxiii, p. 1419.

63.—Ibid., xxxiv, p. 363.

66. **Vibratory Massage in Deafness.**—Lucae describes an instrument contrived by him for massage, and the results of the treatment. The summing-up of his experience is given that the best therapeutic results will be obtained by the application of the simple hand masseur; although the number of vibrations are limited, yet it has the advantage that each stroke can be controlled by the hand and it is free from many of the objectionable features of other instruments.

67. **Bilateral Abductor Paralysis.**—This article is a plea for an early operation in case of bilateral abductor paralysis of the vocal cords. The author reports cases and has searched the literature, in which he has found 88 cases recorded. In addition to these he has learned of 30 more by letter, only a few of which had been published, making a total of 118. He would not have every case of abductor paralysis tracheotomized or intubated at once, but is against procrastination, as the patient may be lost. Of the 30 cases tabulated, 14 were operated on, while 13 had no operation, and 3 were lost sight of. Of the 14 cases operated on, 10 recovered, 1 died and 3 drifted away. Of the 13 not operated on, 7 recovered, 3 died and 3 were lost sight of. Four of the 7 recoveries were not true paralysis of the abductors, but occurred in neurasthenics, which leaves the percentage of recoveries very small.

68. **Septal Irrigations.**—The occurrence of slight septal abnormalities is so common that the teaching to operate upon them is not generally accepted. Pynchon thinks, however,

that they are liable to make trouble, and advises their removal. He gives in conclusion his views as follows: Slight prominences of the nasal septum, which through heightened color of the lining mucous membrane give evidence of chronic inflammation, are to be reduced as nearly as possible to the normal plane of the septum.

69. **Nasal and Post-Nasal Synechiae.**—Price-Brown thinks that these false bands are rarely congenital and nearly always traumatic. They are often due to surgical interference and he considers the galvano-cautery as the form of this most liable to induce their development. He reviews the various causes of this accident and refers to some cases in his own observation, and remarks as to prognosis that this depends largely on the width of the cavity traversed by the synechiæ. When it is not narrow, treatment may be unsatisfactory. In the bony forms he has found the saw the most useful instrument; for fibrous synechiæ he uses the knife, scissors or curved nasal knife. Any hemorrhage occurring at the time he considers as an advantage. He does not like gauze for tampons, but prefers absorbent cotton soaked in one of the hydrocarbon oils, and left *in situ* for several days. He does not use aqueous sprays at all, but hydrocarbon oils thrown through the atomizer by means of compressed air.

74. **Normal Salt Solution for Pleural Effusions.**—Robison remarks that there is nothing so perplexing as to have to deal with cases of chronic non-tubercular pleurisy with effusion that do not subside after repeated aspirations. He has found in such cases injections of hot normal salt solution of great advantage not only in improving the general condition, but in aiding the carrying off of the effusions. The *rationale* of the treatment is simply: 1, To increase osmosis of the fluid into the blood vessels and the activity of the absorbent lymphatics. 2. It is also a solvent and antiseptic. 3. It has a stimulating effect on the pleural vasomotor nerves, dilating the capillaries and hastening the blood-current.

75. **Hallux Valgus.**—Keller operates on this condition in the following manner: Incision over the enlarged head of the metatarsal parallel to its axis, but not extending forward onto the phalanx, the cartilage of which is carefully preserved. All the structures are pushed aside, the joint opened and the end of the metatarsal removed sufficiently for the toe to come back to its place. About three firm catgut sutures are passed through the tissues adjoining the bone of the toe and metatarsal. These do not extend through the skin, but are entirely buried and, when properly adjusted, help to keep the toe in the correct position. The skin and outer structures are closed with interrupted silkworm gut sutures and gauze dressing applied. A light splint is placed on the inner side of the foot and the whole bandaged. No drainage is needed, and the dressing need not be changed for ten days, when the external stitches are removed and the dressing reapplied. If asepsis is good—and one would better not operate without it—earlier change of dressing is not required. In two weeks the patient may be allowed to walk a little on the outer side of the foot slowly but gradually coming to the normal use of it. In his practice recovery has been complete in from six to eight weeks.

76. **Food Adulteration.**—The importance of food adulteration, especially as regards the health, is noted by Leuf, who details some of which he has learned. Mustard is adulterated in several ways, either by extracting the essential oil and deteriorating its quality, or by mixing it with foreign substances from 30 to 60, or even 75, per cent. The average adulteration is about 50 per cent., and this applies to spices as a class. Pepper, especially the white, is adulterated with cracker dust and a little cayenne pepper. In cinnamon we have wholesale adulteration by cassia bark, and when adulterated in the ground article they use cracker dust and cedar sawdust. Ginger is first weakened and then adulterated, the principle is extracted by alcohol and then it is further weakened by the addition of cracker dust, starch and a little cayenne pepper. Cloves are sometimes deprived of their oil and then adulterated, and allspice is not less so, since it is hardly possible to get anything better than half strength in the market. Together with the removal of the essential oil, the remaining product is mixed with the common adulterants. Nutmegs and mace in the powdered form are often adulterated in this way and artificial nutmegs powdered and scented to suit are also on the market. Cayenne pepper itself is also sophisticated, which he thinks must be done through general meanness, as it hardly pays for the trouble.

82.—This article has appeared elsewhere. See THE JOURNAL of August 4, p. 267.

90. **Trachelorrhaphy.**—Palmer here describes a new method of performing trachelorrhaphy, which consists in inserting the sutures and passing them around a broad ring encircling the cervix, which keeps the parts together, and tying the suture outside it. It is then held in place and proper coaptation thus kept up by uniform pressure around the entire circumference of the cervix.

96. **Uterine Cancer.**—Eastman calls attention to the importance of endometritis due to abortions, prevention of conception, and unnatural modes of life, and of cervical lacerations as favoring malignant disease of the uterus, but he does not consider these as the sole causes. He thinks, however, that attention to these will materially reduce the death-rate from this class of diseases.

98. **Perforation in Typhoid.**—After reporting several cases, Davis discusses the condition and the form of operation. He would make the incision obliquely to the internal side of the anterior superior spine of the ilium, where the cecum at once presents, and by drawing it out the ilium follows and can be examined. The summary of his paper is given as follows: The diagnosis of perforation is not always easy. A decided and sudden increase, especially of pain, in the abdominal symptoms, associated with an abrupt fall of temperature, is diagnostic of perforation. Leucocytosis is a confirmatory sign. Hemorrhage is accompanied by a sudden fall of temperature, but not by a sudden increase of abdominal symptoms. Dulness in the right iliac region is not to be expected in cases of perforation. Localized impairment of resonance may be due to free abdominal fluid; change of position causes it to disappear. Localized pain and dulness may be due to a plastic peritonitis around the site of perforation. This may be observed perhaps in one case in ten, possibly one in five. It is impossible to recognize that a perforation is about to occur. It is not necessary to operate before a perforation occurs, but operation must be done before collapse is marked. Typhoid-fever patients, when not in total collapse, are liable to die on the table. He knows of some such cases. Washing out the abdominal cavity with hot normal salt solution, even if no perforation is present, seems to improve the condition of the patient at the time of operation, and to favorably influence the subsequent course of the disease. Operate as soon as the diagnosis of perforation is made. It is less dangerous for the patient to run the risk of having an operation done during the first period of depression, than to wait and run the risk of having collapse preclude all operative measures. In operating incise as for appendicitis, and not in the median or semilunar line.

101. **Serum Therapy.**—First remarking that five deaths have been reported out of some millions of cases where antitoxin has been used, Cott discusses the observations that have been made as to the extreme amount that has been given and the occasional untoward effects. He calls attention to the effect upon the kidneys, and his argument is that this is probably due to the antiseptics in the antitoxin solutions. The least danger is apparently in those preparations where trikresol is the antiseptic and the greatest danger, probably, in those where carbolic acid is used. He thinks that in these cases the irritant which is largely excreted by the kidneys intensifies the destructive processes going on in an already existing nephritis and may cause the death of the patient.

102. **Feeding in Stomach Disease.**—Murdoch reports and illustrates a case of chronic dyspepsia with extreme emaciation which was caused from the fear of food. By careful feed-

ing with three solid meals of dry toast with plenty of water and chopped steak, and three liquid meals of boiled milk, the patient's condition was vastly improved, as shown in the illustrations given. To assure him that food was not his worst enemy, he washed out his stomach some few hours after a meal of solid food and when the patient saw the water returning almost clear, instead of being mixed with undigested food, he was convinced that his stomach was doing its duty.

103.—This article has appeared elsewhere. See THE JOURNAL of August 4, p. 267.

FOREIGN.

British Medical Journal, September 15.

A Discussion on Puerperal Fever in Relation to Notification.—The discussion was opened by Dr. D. Berry Hart, who stated the objections to the notification of puerperal fever. First among these he placed the difficulty of determining what is meant by the name, and in this connection he described three varieties: 1, the acute, rapid form due to a large amount of poison, and usually associated with severe injuries or extensive retention of the membranes; 2, the ordinary lymphatic form, which is the commonest one, and which usually yields to local antiseptic remedies, but may end in localized cellulitis, or in death if the sapremia be intense; 3, the venous form, which taxes the physician's diagnostic skill most. There is here a streptococcic infection of some clot in the uterine wall which causes the general symptoms without giving much, if any, local indication, and is followed by pyemic affections of the other parts. Typhoid, tuberculosis, scarlet fever or drain poisoning may all suggest themselves. The Widal reaction helps us as regards the typhoid fever, but as to the other conditions, he thinks there is still some chance for mistakes. He has not hitherto thought it right to demand bacteriologic diagnosis in private practice, but he mentions the sign given by Whitridge Williams, which may be of some use, viz., the roughening of the uterine walls indicating infection with putrefaction organisms, while if smooth the existence of streptococcic infection is rendered most probable. The risk of statistics being misleading from erroneous diagnosis he considers a minor matter, as physicians will not rashly diagnose puerperal fever, and the death certificate will give an additional check. The supposed unwillingness of the practitioner to report such cases when death does not seem probable is a much more serious objection, and he would make the notification a privileged communication, the local health officers not being required to visit the house unless the case be one in the care of a midwife. The advantages of notification seem to him most obvious, and he is, therefore, strongly in its favor. In the following discussion, Dr. W. J. Smyly thought the notification of puerperal fever might cause great injury to the attendant and Dr. A. V. Macan believed it impossible until it becomes the rule of the profession to inform the patients and their friends what is the matter with them. It is well known that this is not an invariable custom at present. The advantage of the notification is either for the good of the patient herself or to prevent the spread of the disease to others, and he asks how the notification can do the patient herself any good. On the other hand, how will it stop the spread of disease to others more than the ordinary precautions taken by the educated physician in such cases? In the case of midwives, they need instruction, and in his opinion the first step toward lessening the amount of puerperal fever is by the improvement of the education of the doctor and midwife, and not by compulsory notification. Dr. Helme, of Manchester, remarked that it has been so persistently explained that in every case of puerperal fever the physician is the sole and blameworthy cause, that at the present moment, in many districts, to tell the friends that the patient had the disease would permanently injure the medical attendant. He suggested, therefore, that if the rule of notification is to be followed, we should first correct the erroneous opinion of the public in this regard. There were other differences of opinion, but the following resolution was carried unanimously; "That it be a recommendation to the Council that, in the opinion of the meeting, it is desirable that notification of puerperal fever (septicemia) should be adopted generally."

Observations on Human Placentation in the Second Stage. CATHERINE VAN TUSSENBROEK.—The writer's conclusions are as follows: 1. The macroscopical form of the human placenta is accomplished about the sixth month of pregnancy. 2. At that period the decidua reflexa has almost totally disappeared. 3. The reduction of the decidua reflexa is the effect of mechanical pressure. 4. The reduction of the villi of the chorion leve is chiefly effected by the obliteration of the intervillous spaces between chorion and reflexa.

A Discussion on the Natural History of Fibroids and Recent Improvements in Their Treatment.—Alban Doran, in opening the discussion, considered the following questions: 1. The natural history of uterine fibroid. It is not a fibroma. It is always more or less a myoma consisting of muscular fiber like the uterus, and while nobody would think of treating a fibroma with internal medication, it is a fact that ergot acts to some extent on the myomatous tissue as it does on the uterine muscle. It may, therefore, be very beneficial, but these forms are not rarely associated with cardiac disease and then ergot is contraindicated. A more important practical point is the relation of the ovaries to fibroid disease. While no definite changes have been detected in the ovaries the experience of a formerly popular operation shows that the removal in certain cases reduces the fibroid or checks the bleeding. The results, however, are not uniform, but are of some interest to us as bearing on the question whether the ovaries should be left in case of hysterectomy for this cause. 2. We are not quite clear as to the nature of the hemorrhagic discharge in fibroid disease. 3. One of the most puzzling questions is in regard to their growth; the prognosis on this point is extremely difficult. Undoubtedly spontaneous disappearance may occur or the tumor may at least remain stationary, while all other pelvic and abdominal tumors are clinically, if not also pathologically, malignant. The influence of the menopause is also of importance. It is generally believed that a fibroid ceases to grow after the change of life, but Kleinwächter finds from extensive clinical evidence that this is not absolutely true. It seems clear, however, that the menopause is apt to be retarded often until after the fiftieth year in subjects with fibroids. The majority give no trouble after the menopause, only a minority require further attention. The second subject which he discusses is the recent improvements in the treatment. He asks first if there are any recent improvements in expectant treatment. We have advocates of electricity, and the bromids, and he asks the opinion in regard to this matter. The majority of fibroids require no operative treatment, but where this is not so he discusses the various methods. Retroperitoneal hysterectomy is the most popular method in Great Britain at the present time, and he concludes with some remarks in regard to its merits and details. He objects to leaving intraperitoneal ligatures or sutures connected with the stump and finds it best to unite the cut edges of the peritoneal flaps with a continuous Lembert suture of fine silk. As regards the leaving of ovaries, he thinks it does not entail very formidable results and thinks the dread of removing the ovaries a fashion, though on surgical grounds he saves them if possible, not through fear of the consequences, but because the surgeon should remove only what is absolutely demanded. He thinks that retroperitoneal hysterectomy is the best of recent improvements in the radical treatment of uterine fibroids. Panhysterectomy entails more dangers at the time of operation and the ligatures can not be dispensed with.

On Dilatation of the Pupil from Stimulation of the Cortex Cerebri. JOHN HERBERT PARSONS.—The author offers the following as a summary of the principal results of his experiments: 1. Dilatation of the pupil, like other effects of cortical excitation, is best obtained with slight anesthesia. It often occurs without any movement either of the eyes or body, but most when the animal is struggling; it is never seen with deep anesthesia. 2. It is obtained only from those parts of the brain which are concerned in eye movements—that is, from the anterior part corresponding to the frontal motor area for the eye muscles, and from the posterior part corresponding to the

occipital "visual center." The frontal area in the dog and cat is in the neighborhood of the crucial sulcus, and the pupil effect is usually best obtained from the mesial surface of the hemisphere at this point. The occipital area is the posterior part of the second external convolution (Ferrier's). 3. When well marked, the dilatation of the pupil is accompanied by all the usual effects of stimulating the cervical sympathetic. 4. The effect is usually more marked upon the opposite eye. 5. The effect is diminished, but by no means abolished, by section of both sympathetic nerves in the neck. The other sympathetic effects are abolished. 6. The effect is abolished by section of the oculomotor nerves intracranially, subsequent to section of the cervical sympathetics. Under these conditions the pupils assume the position of post-mortem equilibrium and are immobile. Hence, I conclude that in the absence of the sympathetic channels the diminished effect is due to inhibition of the tonic action of the third nerves. 7. The effect is not abolished on either side by the section of the corpus callosum. Stimulation of the cut surface of the corpus callosum results in the usual bilateral pupilary reaction. 8. Stimulation of the central end of a cut afferent or mixed nerve—for example, sciatic—still causes dilatation of both pupils after section of both cervical sympathetics—that is, a reflex inhibition of the third nerves. 9. He has not as yet obtained unequivocal constriction of the pupils from stimulation of the cortex, but not much attention has been paid to this point hitherto.

The Lancet, September 15.

Heatstroke in India and Examination of Some Statistics Relating Thereto.—W. J. BUCHANAN.—This article is largely a criticism of a paper by Dr. Sambon on "Sunstroke as an Infectious Disease." Buchanan takes up the statements contained in said paper as follows: New arrivals are more liable to be attacked than natives or old residents. He admits this to be true, but claims that it only represents a part of the truth. Recklessness and carelessness are characteristic of new arrivals in any hot country, who neglect precautions, but grow more careful with length of residence. There is no acclimatization, as Sambon seems to think, and in spite of precautions, the individual seems to become more and more liable to the effect of the heat until in time his percentage liability, as shown by statistics, becomes equal at least to that of the inexperienced newcomer. The next statement of Dr. Sambon, that siriasis is not always to be found in the warmest regions, is erroneous, as Buchanan attempts to show by figures. He finds that the incidence of fatal cases of heatstroke is greatest in the parts of India where the night and day heat is fiercest, and is also the most prevalent in the months when the heat is greatest. He also found that altitude has not the effect claimed by Sambon; in fact, the danger of sunstroke is greatest in levels above the lowest and altitude enters into the matter only when we come to a point where the elevation is combined with coolness of the atmosphere, as in hill stations. There is no analogy in its distribution with yellow fever, and the statement that its altitude range is more restricted than that of the latter disease is not true. He thinks that it will require much more evidence than that which has been produced to make those who have had experience in India accept the microbial or any other theory which seeks to minimize the great and predominating influence of fierce and continuous heat.

Presse Medicale (Paris), September 15.

Cod-Liver Oil in Tuberculosis. A. F. PLICQUÉ.—The fresh air rest cure is tolerated by tuberculous patients only on an extra amount of food, and especially of fats, to counterbalance the effects of the cold. The struggle in the organism against the bacilli is chiefly the task of the leucocytes, which derive their energy from phosphorus. Consequently the benefits of cod-liver oil in this disease may be attributed to the action of a very easily assimilated fat, to the special combination of phosphorus, to the liver antitoxins contained in the oil, or to all combined. It is utterly useless and only fatigues the stomach when administered in small doses. An adult should take at least 100 gm. a day to derive any real benefit. Jaccoud has been most successful with 200 to 250 gm. a day, commencing with a small amount. It should always be taken in two doses, or, better still, in one dose, at the commencement of the midday meal or before breakfast, followed by a highly seasoned dish or an orange or lemon, if necessary. The oil should be fresh, and cooled if preferred. To disguise the taste a quarter of a glass of strong beer may be mixed with it, or a spoonful of syrup of ether, which assists in its digestion by stimulating the production of pancreatic juice. The addition of 1 or 2 gm. of strychnin may also facilitate tolerance. If the oil induces diarrhea or greasy stools, it is best to suspend it for a few days. It is useless to give it if large quantities are expelled unchanged. Ether or pancreatin may assist in the intestinal digestion. When percussion shows that the liver is becoming hypertrophied and soft, after long and successful administration of the oil, it is an indication of saturation and is soon followed by gastrointestinal intolerance. Remarkable tolerance for the oil during the hot weather has been observed in a few instances, but in general it should be replaced with butter, yolks of eggs, etc., at this season.

Progres Medical (Paris), September 28

Tunnel Treatment of Abscess in Bones. L. LONGUET.—Instead of the usual extensive evacuation and scraping of a circumscribed infected focus in a femur, Longuet drills into the abscess, thus making a well, as he calls it, about 25 mm. in diameter. He then drills through the bone from beneath, or low down on one side, until he enters the bottom of the well, thus tunnelling the bone completely and providing an outlet for the secretions at the lowest point. A rubber drain wrapped in gauze is passed through the tunnel. This method avoids all unnecessary mutilation of bone and soft parts; two longitudinal incisions in the skin are sufficient. The relief from pain is immediate, whether it is a case of ordinary abscess, of osteoneuralgia or of an unlocated abscess. In future cases he proposes to disinfect the tunnel with superheated air. One of his patients was cured completely by this treatment, without even a fistula; the remainder have been lost sight of.

Semaine Medicale (Paris), September 12.

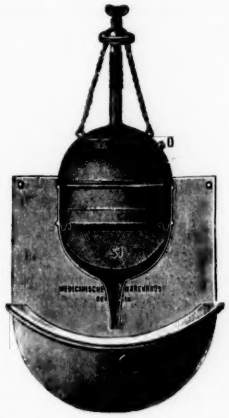
Cyanosis of the Extremities in Brain Disease. F. LECLERC.—Cyanosis of the extremities is pre-eminently a nervous trouble and is usually observed alone or as an accident of hysteria. But in certain cases it appears in the company of other symptoms with which it has certain family traits, all originating in the vasomotor centers of the medulla and adjacent centers on the floor of the ventricle. In a case described, the patient was a man of 35, with a neuropathic heredity, who suffered from almost daily attacks of vertigo, distress and eructations, although free from organic disease. Occasionally the seizures were accompanied by extreme cyanosis of the extremities and transient glycosuria.

Centralblatt f. Chirurgie (Leipsic), September 18.

Restoration of Mobility in Ankylosed Joints. V. CHLUMSKY.—The production of a flail-joint is usually due to the insertion of some portion of the soft parts between the parts of the joint. If this could be artificially accomplished in a joint threatened with ankylosis, the latter might possibly be prevented. Chlumsky has been experimenting on animals to determine the feasibility of such a procedure and, although his research is not concluded, the results are so encouraging that he announces them without further delay. After resection of portions of the soft parts and bones of a joint on the hind leg of a dog or rabbit, he inserted a thin triangular plate, with rounded edges, to prevent the formation of adhesions, suturing it to the sawed surface of the tibia. The plates were made of rubber, celluloid, silver, tin, gauze or a coating of collodium. The joints healed well with normal flexion and only a slight restriction to complete extension. The celluloid and rubber plates were unaltered and only slightly displaced when the animals were killed, four and a half months later, but the silver and tin had become disintegrated. In another series he used absorbable material, chiefly magnesium. The functional results were equally satisfactory, but as the thin sheet of magnesium was absorbed so rapidly, the space left was small and threatened to become closed ultimately. Further experiments with thicker plates are now under way.

Deutsche Medicinische Wochenschrift (Leipsic), September 6 and 13.

Sieve for Feces. I. Boas.—The little apparatus described screws on a faucet like a filter. The water as it enters spreads out over the small sieve "S" above and thoroughly washes the fecal matters, which are placed on a fine hair-sieve in the lower



part. An opening, "O," admits a glass stirring rod. In ten to twenty minutes nothing is left on the sieve but the colorless, insoluble matters, which can then be examined at leisure.

September 13.

First-Aid in Injuries of the Eyes from Lime. H. G. Stutzer.—As time is of much importance when the eyes are injured with lime or mortar, there should be no delay nor hesitation in removing the caustic and therefore Stutzer recommends water for the purpose. The injured person should lie on the ground, another should open the eye wide, pulling down the lids with his thumbs and holding them open while a third pours water into the eye from a height of about twenty inches, using a pail or coffee-pot, preferably with a spout, and trying to make the stream as narrow as possible. The patient should then be taken to a physician, a specialist if possible. The clumsiness of the workmen in opening the eye is not a disadvantage, as the particles of lime are dislodged by the manipulations and are more readily washed out. Illustrated circulars with these instructions should be posted where lime is being used.

Cured Cases of Peritoneal Tuberculosis. Cassel.—If fever continues in a case of tuberculous peritonitis in a child after several weeks of appropriate treatment, the abdomen does not diminish in size and the emaciation progresses, Cassel summons the surgeon without further regard to the nature of the tuberculosis. He has had 18 cases in children under 11, including 3 between 12 and 18 months. Out of the 18 only 2 recovered spontaneously, 3 died and 5 were removed by the parents. Three of the 7 operated on are in perfect health—2 four years and 1 three years—after the intervention. The remainder are still under treatment.

Muenchener Medicinische Wochenschrift, September 11.

Bacterial Capsules as a Means of Differentiation. I. Boni.—It has been impossible hitherto to detect a capsule on certain bacteria when grown on solid media. This is due, as Boni has established, to the lack of color in the background. Substituting bouillon for the water used the capsule stands out distinctly, and thus aids in the differentiation of the bacteria. The typhoid bacillus has no capsule, while by this means one is clearly perceived on the bacillus coli. The medium found most effective in developing a capsule is a mixture of the white of an egg, 50 gm. glycerin and two drops of formalin, shaken and filtered. This mixture keeps well and promptly determines whether the bacterium has a capsule or not.

Test of Waning Vitality of Cells. Bioscopy. M. Neisser and F. Wechsberg.—The reducing capacity of living cells and organisms, the power to decolorize a solution of methylene blue, for instance, is proving an excellent means of determining the degree of vitality of the cell. (See The Journal, September 29, p. 850.) The authors of this communication have been testing this bioscopy, as they call it, on non-motile cells, etc., for instance, tracing the injury inflicted on kidney cells by studying the reducing power as graduated amounts of alcohol are added. The chief merit, perhaps, of the new method is the rapidity with which the efficacy of specific sera or chemical or physical agents, in respect to the destruction of bacteria, can be determined. Anthrax bacilli, for example, reduce methylene blue very rapidly, but the addition of rabbit serum, which is bactericidal for anthrax, arrests the reduction and the stain remains bright. The method can also be applied to determine growth-fostering media. Living tubercle and typhus bacilli, cholera vibrios and staphylococci possess marked reducing power, but it was absent in the toxins or ferments examined. The test can also be used for milk, to determine the microbian contents, by adding methylene blue to graduated amounts of milk, pouring a layer of liquid paraffin on the surface and placing in the incubator.

Wiener Klinische Wochenschrift, September 6 and 13.

Disturbances in Metabolism in Nurslings. M. Pfaundler.—The research on infants with gastrointestinal affections reported in this communication does not confirm Czerny's hypothesis of acid intoxication, i. e., increased excretion of ammonia and diminished elimination of nitrogen. On the contrary, it showed that the oxidating power of the affected liver parenchyma was very much diminished in these cases. The insufficiency was revealed in the products of metabolism, while in the adult and in animals, diseases of the parenchyma seldom entail functional insufficiency appreciable by the metabolism. Nine positive results in ten cases in which the examinations during life had been confirmed by the post-mortem findings, established that the variations in the oxidating energy of the liver have an influence on the nitrogen in the urine of nurslings. A decrease in the fermentative oxidating power of the organ, such as occurs with severe anatomic alterations in the parenchyma of the liver, is accompanied by increased excretion of ammonia, while the amount of urea is diminished.

September 13.

Present Status of Radiotherapy. E. Schiff and L. Freund.—Summarizing the experiences of the last few years in Roentgen therapy, the results show that it is superior to all other methods of treatment for sycosis, favus and other inflammatory or parasitic affections of the hair-covered portions of the skin, by the rapidity and thoroughness of the cure, dispensing with dressings and medicines. When operative treatment is rejected in lupus or would require too extensive intervention, the "bloodless, painless, mild Roentgen treatment enters on its rights." It respects all the sound tissue, requires no hospitals or drugs, and although longer and less certain than operative treatment, is preferable for certain cases. Roentgen treatment has the advantage over Finsen's method that the entire affected surface can be treated at once. In the treatment of hypertrichosis, it has proved effective and painless, but it leads to the formation of small atrophic depressions in the skin at the mouths of the follicles. They are not noticeable, however, and would be recognized only by an expert. Electrolysis is perhaps preferable for small hairy warts and nevi, but for extensive hair-covered surfaces Roentgen treatment should be preferred unconditionally.

General Concentric Franklinization. Breitung.—The patient is placed in a lattice-work cage, the "pavilion," which has wires running throughout the inside, discharging the positive electric breeze, and thus subjecting the patient to a concentric electric-air bath. Neurasthenic subjects are overcharged with negative electricity, and experience great relief and well-being when this is substituted by the positive. The benefits of this "pavilion" treatment have been so pronounced in Breitung's experience with nervous affections of various kinds that he recommends it as a special boon to the general practitioner.

Gazzetta degli Ospedale (Milan), August 26 and September 2 and 9.

The Iodophile Reaction of Pus Corpuscles. V. Porcile.—Wherever the iodophile reaction occurs an active inflammatory process can be assumed. It is difficult to deduce any conclusions from the reaction as to the age, nature, site, etc., of the process. The iodophile substance does not occur in fresh tubercles, and the reaction is feeble and entirely absent in purulent exudates of tubercular origin unaccompanied by microbian asso-

ciations. The reaction could never be detected in ascitic fluids, etc., without suppuration.

Glycogen in the Prognosis of Neoplasms. PELICELLI.—The writer's study of 100 tumors of various kinds has confirmed the importance of the discovery of glycogen in a tumor as an indication of its malignancy. It is seldom found in benign tumors. He interprets it as the expression of augmented, accentuated cellular interchanges, not of degeneration. It is the more abundant, the less differentiated the elements of the neoplasm and the more rapid its growth. The glycogenic coefficient of a neoplasm is therefore an indication of its degree of malignancy and affords useful data for the prognosis. Clinical observation in every one of his cases confirmed the microscopic findings.

September 2.

Therapeutic Application of the Cell-Destroying Sera. L. LUCATELLO.—Metchnikoff and others have announced that the serum of animals treated with blood-cells from another species has a distinctly destructive action on these cells in large amounts, but that a small amount of this "cytotoxin," as they call it, stimulates the production of the cells. Like the action of alkaloids and antiseptics on fermentations, a large amount paralyzes, but a small amount induces hyperactivity. Lucatello has been testing these assertions in respect to the "cytotoxins" on four anemic children, and his experiences confirm them in every respect. Dogs were injected in the peritoneum with the blood of the patient. Their serum then acquired the property of stimulating the blood production when transferred to the patient in a subcutaneous injection of .3 to 2 c.c. The number of red corpuscles was increased and also to some extent the proportion of hemoglobin. The erythrocytes increased nearly if not quite to normal and there was slight leucocytosis. This improvement in the composition of the blood persisted for two weeks. The reaction is less pronounced in case of organic lesions with persistence of the causal process of the anemia. The influence of the cytotoxins seems to be principally cytogenic rather than hemoglobinogenic, and this independence of the two processes confirms the autonomy recently claimed for them.

September 9.

Curative Value of Tuberculosis Antitoxin. S. MIRCOLI.—Mircoli tabulates the results of this treatment in 2899 tuberculous patients, mentioning the results on the bacilli, the local lesions and the weight. He classifies the cases as circumscribed apyretic, circumscribed febrile and diffuse tuberculous bronchitis with and without microbian associations, and bronchopulmonitis with cavities. Out of 250 circumscribed apyretic patients, 95 were cured, 110 improved, 30 remained stationary and 35 grew worse. In circumscribed febrile patients, 168 out of 938 were cured, 511 improved, 163 remained stationary and 96 grew worse. Out of 332 patients with diffuse tubercular bronchopulmonitis with microbian associations, 31 were cured, 142 improved, 98 remained stationary and 61 grew worse. In diffuse tubercular bronchitis without microbian associations, 91 out of 665 patients were cured, 301 improved, 166 remained stationary and 106 grew worse. Out of the 712 patients with bronchopulmonitis with cavities, 39 were cured, 281 improved, 102 remained stationary and 240 grew worse. The improvement obtained with anti-toxin treatment is usually permanent. It seems as if the organism, once assisted to effectively defend itself, is able to continue the struggle successfully for years afterward alone. The antitoxin does not act on pyogenic associations nor in cases in which the system is unable to respond to the stimulus of the antitoxin. The aid of hygienic and dietetic measures is also indispensable. The best results were attained with 1 c.c. injected on alternate days. The antitoxin not only neutralizes the toxins, but stimulates the production of "alexins." Its power is shown by examining the blood of patients before and after treatment. The serum of a normal person has a toxic power and also a specific antitoxic power on the tuberculosis toxins to a certain extent. In a tuberculous subject, the former property is above normal, while the latter is nearly if not entirely absent. This condition tends to enhance the effect of the tuberculosis toxins in the system. A month or so after treatment with antitoxin both properties are the same as in a normal subject. This artificially-induced antitoxic power must be due to the active participation of the organism as the potential must be hundreds of times greater than the small amount of antitoxin actually injected. Experimental tests show that the antitoxin also has a direct action on the bacilli, inhibiting their growth and virulence. None of the bacilli develop or produce infection after being kept in antitoxin for twenty days *in vitro*. Tuberculosis intoxication may be conquered without medication, but when the physician is not positively sure that a spontaneous cure is impending, he should bear in mind that nature can be aided and the intoxication conquered more rapidly and more energetically with antitoxin treatment than with any other. It is applicable to all cases and all stages. Tuberculin, on the other hand, adds to the toxins already in the organism, and may prove the last straw to upset an already tottering equilibrium. The recent research on hemolysins has confirmed Maragliano's fundamental conceptions of antitoxin treatment and the autoserotherapy it induces. Naegeli's statements are also confirmatory; he found with improved methods of post-mortem investigation that 100 per cent. of the adults examined presented evidences of tubercular lesions, and claims that every adult is tuberculous. The strong are able to transform an active lesion into a latent, inactive process, and Maragliano, by supplementing the natural resources, reenforces the weak and enables them to accomplish the same result.

St. Petersburger Medicinische Wochenschrift, August 25 and September 1.

Torsion of the Cecum on Its Axis. R. WANACH.—Scarcely fifty cases of torsion of the cecum on its axis have been published. Wanach has had occasion recently to observe two which demonstrate that an external mechanical factor is not necessary to the production of the torsion. Both patients were awakened in the night by the first indications, after retiring in apparent good health. The cecum had no mesentery in one case, but was held by cicatricial fibers proceeding from the neighborhood of an old inguinal hernia. Cases of torsion of the cecum are generally more complicated than of torsion of any other portion of the intestine. In operating, the adhesions and condition of the mesentery which favor torsion must be remedied as far as possible. One patient had evidences of copious exudate in the abdominal cavity and succumbed to septic infection the next day. Clumps of ascarides and teniæ were found in the cecum which, with the ileum, was congested.

Revista de Med. Y Cir. (Havana), August 10 and 20.

Preservation of Cadavers With Formol. J. A. PRESNO.—The climate of Cuba during July and August affords a good test of this method of preserving cadavers, first suggested by Waldeyer and described in THE JOURNAL, xxxii, p. 1438. The formol sterilizes the tissues almost completely and abolishes the cadaveric odor, so that none clings to the hands in dissecting. The tissues are firm and elastic and do not shrivel, but retain their shape and position. The muscles lose their color, although this can be prevented to some extent by adding sodium acetate to the injecting fluid.

Cure of Traumatic Tetanus With Phenic Acid. FLAVEL WOOD.—A lad of 12 developed tetanus after running a nail into his foot, with symptoms of severe infection. Ten drops of a 10 per cent. solution of phenic acid were injected subcutaneously, and fifteen minutes later 20 drops, continuing with 30 drops every half hour all that day and night. Cannabis indica—25 mg.—was added to the solution during the day, but omitted as the pupils contracted. The second day the 10 per cent. solution of phenic acid was injected in half-dram doses every two hours. The third day the patient was able to swallow and a dram of the same solution was given in glycerin by the mouth three times a day. The odor of the phenic acid was marked in the urine. Recovery was prompt and complete. Wood believes that large doses of phenic acid in these circumstances have an antitoxic influence if the system is promptly and thoroughly saturated. The antiseptic action probably occurs chiefly in the blood.

Revista de Medicine Tropical (Havana), August.

The Anopheles in Cuba. J. Guiteras.—The larvæ of the anopheles were found abundant near Havana and Matanzas, but few specimens of the culex could be obtained. Mosquitoes grown from the larvæ proved to belong to the variety described by Grassi as the A. superpictus or the closely-allied A. pseudopictus or costalis. They all rest in the characteristic attitude mentioned by Ross, the proboscis and abdomen forming a straight line, always at an angle of about 45 degrees with the surface on which the insect is standing.

Norkiskt Medicinskt Arkiv (Stockholm), August 9.

Remote Results of Operations for Chronic Ulcer of the Stomach. J. Nicolaysen.—Two of the twenty-seven cases tabulated were operated on more than five years ago, twelve more than two years and eight nearly two years ago. Pyloroplasty was made in five and gastroenterostomy in twenty-two cases. Fifteen are in good health, including all the oldest cases, and not counting the most recent. Six have died, one from ovarian tumor and one from pulmonary tuberculosis, during the second year; four of the deaths occurred soon after operation, including one from pulmonary embolism in four days, one from an unknown cause in one month and one from pernicious anemia in four months. The ulcer had been noted in two cases for fourteen and twenty-four years, respectively. Complete restitution of motility was not attained for a time varying from four weeks to several months, depending upon the degree of the previous stenosis. A corresponding curve was also noted in the faculty of absorbing nitrogen and fat after gastroenterostomy. The blood was examined in eight cases and found normal in two; in the remainder the corpuscles increased rapidly from 3,800,000 with 60 per cent. hemoglobin before operation to 4,000,000 and 5,000,000 with 90 to 100 per cent. hemoglobin afterward. Nine patients with pain and hematemesis were all cured, although four had brief relapses of pain or hemorrhage during the first or second year after the intervention, and one required gastroenterostomy to supplement the previous pyloroplastic operation.

New Patents.

Patents of interest to physicians, etc., Sept. 4 to 11:

657,328. Syringe. Wm. P. Allen, Chicago.
657,279. Bed-pan. Rosa Blank, Vienna, Austria.
657,402. Inhaler. Peter T. Donovan, New York City.
657,404. Hernial truss. George Fancher, Greenwich, Ohio.
657,426. Antiseptic broom. Oscar S. Kulman, Savannah, Ga.
657,440. Aspirator. Wm. J. McCaw, Providence, R. I.
657,183. Eye-protector. Edward G. Stevens, New York City.
657,866. Inhaler. Wm. H. Fike, Iberia, Mo.
657,819. Bed-pan. Harriet D. Goodrich, Augusta, Ga.
657,658. Lung tester and developer. Israel Hogeland, Chicago.
657,708. Instrument case. Gustave Rehmann, Newark, N. J.
657,578. Fountain syringe or other cap. George H. F. Schrader, New York City.
657,710. Atomizer. Emmet L. Smith, Chicago.
657,582. Combined undershirt and suspensory bandage. Frank W. Wright, Wichita, Kan.
33,189. Design, atomizer casing. Henry C. Thomsen, Hamburg, Pa.

Change of Address.

W. S. Anderson, Holly Springs, Miss., to Masonic Temple, Memphis, Tenn.
E. S. Albee, Oshkosh, Wis., to 915 Walnut St., Kansas City, Mo.
D. S. Adams, 905 20th St., Rock Island, to 404 N. Lafayette St., Macomb, Ill.
L. M. Berg, 2516 Indiana Ave., Chicago, to San Antonio, Tex.
R. C. Balch, 236 E. Main, to 115 W. Lovel St., Kalamazoo, Mich.
G. A. Bachman, Hopkins Station, to Dorr, Mich.
H. Beyer, Orange City to Sioux Center, Iowa.
W. V. Benjamin, Devil's Lake, Wis., to The N. W. Med. School, 2431 Dearborn St., Chicago.
Jas. N. Carter, 553 Orange St., Macon, Ga., to Med. Dept. Vanderbilt Univ., Nashville, Tenn.
H. W. Cooper, Greenwood, to Wisacky, S. C.
W. M. L. Coplin, Grassland, W. Va., to Jefferson Med. College, Philadelphia, Pa.
O. H. Clark, 203 W. South, to 405 S. Burdick St., Kalamazoo, Mich.
Geo. E. Clements, 398 Marshfield Ave., to Rush Medical College Laboratory, Chicago.
D. C. Dickinson, Salem, to Union Hall, Va.
Thos. G. Duncan, 219 E. 4th St., Owensboro, Ky., to Victoria, Texas.
Gregory Doyle, W. Fayette to 307 W. Genesee St., Syracuse, N. Y.
J. G. Eckstein, Colorado Springs, to Colorado City, Col.
B. F. Frye, Newport News, to Gloucester Point, Va.
M. B. Ferguson, Winnipeg, Manitoba, to Roseburg, Ore.
J. M. Finney, 605 Houston St., Ft. Worth, Tex., to Mangum, O. T.
A. D. L. Gordon, Detroit, Mich., to W. H. Hospital, Blackwell's Isle, New York City.
H. E. Gettler, U. S. Marine-Hospital New York City to Littlestown, Pa.
C. F. Hoover, 282 Prospect St., to Rose Bldg., Cleveland, Ohio.
F. B. Humphreys, Fremont, to Angola, Ind.
S. G. Hollingsworth, Brazil, to Harlan, Ind.
DeWitt Jordan, Ridgeville, to 319 N. Delaware St., Indianapolis, Ind.
H. E. Kelly, Ottawa Lake, to LaSalle, Mich.
P. D. Lipscomb, Crozet, to University Station, Charlottesville, Va.
E. E. Levers, Almy, to Piedmont, Wyo.
Frank LeMoyne Hupp, 318 W. 57th St., New York City, to 61 14th St., Wheeling, W. Va.
E. M. Latham, 231 12th St., Toledo, to Holland, Ohio.
W. R. Lavender, 1418 Dodge St., to Continental Blk., Omaha, Neb.
J. P. Munn, 18 W. 58th St., New York City, to Wawbeek Adirondacki, N. Y.
M. L. Maduro, 11 W. 121st, to 135 W. 104th St., New York City.
J. T. McDonald, 916 Market St., San Francisco, Cal., to Honolulu, H. I.
W. J. Nix, Batesville, to Cartersville, Ga.
E. D. Piper, 3521 S. Hermitage, Chicago, to Everett, Wash.
T. P. D. Pound, Wilsonville, to 2250 Baxter Ave., Louisville, Ky.
A. S. Plummer, Lone Star, Kan., to 1313 Main St., Peoria, Ill.
Wm. Rupp, Calumetville, to Marion, Wis.
R. R. Reynolds, 219 Superior, to 256 Pearl St., Cleveland, Ohio.
S. R. Ratliff, Lucedale, to Vancleave, Miss.
J. R. Scott, Chicago, to Appleton, Wis.
E. A. Shumway, 124 S. 18th, to 2007 Chestnut St., Philadelphia, Pa.
G. W. Stevens, 1819 Adams St., to 10 Korea Flat, Toledo, Ohio.
A. L. Sherman, East Chatham, to 157 St. Nicholas Ave., New York City.
B. F. Sandow, Honolulu, to Waimea, Kauai, H. I.
S. M. Strohecker, 10192, to 10153 Winston Ave., Washington Heights, Chicago.
M. G. Tull, 4614 Woodlawn, to 4629 Baltimore Ave., Philadelphia, Pa.
Wells Teachnor, Sciotoville, to 910 Franklin Ave., Columbus, O.
M. E. Thompson, 2954 Cottage Grove Ave., to 111 18th St., Chicago.
W. S. Whitmore, Mt. Sidney, to University Station, Charlottesville, Va.
H. Vernon Weaver, Carolina, to 269 Broad St., Providence, R. I.
G. F. Zerzan, Schuyler, to Milligan, Neb.

Queries and Minor Notes.

MEDICAL PRACTICE LAWS.

Farmington, Ia., Sept. 12, 1900.

To the Editor:—Can you inform me whether a physician can practice medicine and surgery in Oklahoma simply by registering, or is there a state board examination? C. C. C.

Ans.—The requirements in Oklahoma are graduation from a reputable medical college, good habits and moral character. Lacking a recognized diploma, the passing of an examination and evidence of five years' practice is necessary.

DEFINITION OF INSANITY.

Cambridge, Mass., Sept. 13, 1900.

To the Editor:—Will you kindly inform me as to the number and name of the medical journal which contains the paper by Dr. Hughes referred to in the enclosed clipping from The Journal?

Insanity Defined.—Hughes reviews some of the attempts to produce a satisfactory definition of insanity and offers the following as his contribution to the total. He says: "We need never be at sea before any court, before any jurist, in giving our views of insanity as a disease primarily or secondarily involving the brain of the individual so as to produce in him a change in the natural habits of thought, feeling or action—a change of his normal, natural mental expression by which and by reason of the disease underlying all, he is placed out of harmony with his surroundings, with his natural self or with his normal family type of mind." L. B. B.

Ans.—The above definition is contained in an article by Dr. C. H. Hughes, published in the *Alienist and Neurologist* for April, 1899, p. 170.

TREATMENT OF EPILEPSY.

Norfolk, Va., Sept. 17, 1900.

To the Editor:—On p. 719 of The Journal, under article "Treatment of Epilepsy," it says: "Flechsig's method should be tried." Will you please let me know what "Flechsig's method" is? I have a case on hand and wish to try it. L. B. F.

Ans.—Flechsig's method consists in giving extract of opium ½ gr. or less three times a day, and gradually increasing the amount

with the patient's tolerance until 5 to 10 grs. or more are taken daily. This opium administration is continued for a total of about six weeks and then discontinued and the patient put on the bromids. It is highly spoken of by some authorities for cases rebellious to the ordinary bromid treatment.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 13 to 19, 1900, inclusive:

William D. Crosby, captain and asst.-surgeon, U. S. A., member of a board in New York City to examine lieutenants of the line of the army with a view to selections for transfer to the ordnance department.

John F. Dunshie, acting asst.-surgeon, to proceed from Fort Leavenworth, Kansas, to New Orleans, La., for annulment of contract.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board in New York City to examine lieutenants of the line of the army with a view to selections for transfer to the ordnance department.

George Newlove, acting asst.-surgeon, previous orders revoked; he will proceed from Fort Leavenworth, Kansas, to Fort Sill, Oklahoma, for temporary duty.

W. B. O'Rear, acting asst.-surgeon, leave of absence granted.

J. W. Richards, acting asst.-surgeon, leave of absence granted.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Sept. 20, 1900:

Surgeon H. R. Carter, upon expiration of leave of absence, directed to proceed to Louisville, Ky., and assume command of service.

P. A. Surgeon C. P. Wertenbaker, directed to rejoin station at New Orleans, La.

Asst.-Surgeon M. K. Gwyn, upon being relieved by Surgeon H. R. Carter, to report to him for duty and assignment to quarters.

Hospital Steward Malcolm McKay, directed to report to medical officer in command at Wilmington, N. C., for duty and assignment to quarters.

Hospital Steward F. H. Peck, to proceed immediately to Galveston, Tex., and report to Surgeon Peckham for special temporary duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Sept. 22, 1900:

SMALLPOX—UNITED STATES

Kansas: Cherokee County, Aug. 1-31, reported; Crawford County, Aug. 1-31, 11 cases: Eureka, Aug. 1-31, 1 case; Olathe, Aug. 1-31, 1 case; Parsons, Aug. 1-31, 1 case; Sumner County, Aug. 1-31, 11 cases.

Louisiana: New Orleans, Sept. 8-15, 3 cases, 1 death.

Michigan: Houghton, Sept. 8-15, 5 cases; Torch Lake, Sept. 8-15, 2 cases.

Massachusetts: Fall River, Sept. 8-15, 1 case.

Ohio: Cincinnati, Sept. 7-14, 1 case; Cleveland, Sept. 8-15, 8 cases; Portsmouth, Sept. 8-15, 3 cases.

Utah: Salt Lake City, Sept. 8-15, 6 cases.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Aug. 8-15, 3 deaths.

Canada: St. Alexandre, Que., Sept. 4, 3 cases; St. Sebastian, Que., Sept. 4, 2 cases.

England: Liverpool, Aug. 24-Sept. 1, 6 cases, 3 deaths; London, Aug. 24-Sept. 1, 2 cases.

France: Paris, Aug. 24-Sept. 1, 2 deaths; Rouen, July 1-31, 1 death.

India: Bombay, Aug. 14-21, 1 death.

Mexico: City of Mexico, Aug. 31-Sept. 8, 4 deaths.

Russia: Moscow, Aug. 18-25, 6 cases, 2 deaths; St. Petersburg, Aug. 24-Sept. 1, 21 cases, 8 deaths; Warsaw, Aug. 18-25, 6 deaths.

Scotland: Glasgow, Aug. 31-Sept. 7, 30 cases.

YELLOW FEVER—FOREIGN.

Colombia: Panama, Sept. 3-10, 2 cases.

Cuba: Havana, Sept. 1-8, 12 deaths; Sagua, Sept. 17, 2 cases.

Mexico: Vera Cruz, Sept. 1-8, 6 deaths.

CHOLERA

India: Bombay, Aug. 14-21, 764 deaths; Karachi, Aug. 12-19, 22 cases, 8 deaths; Madras, Aug. 4-17, 86 deaths.

Japan: Osaka and Hiogo, Aug. 11-18, 1 case.

PLAGUE—FOREIGN.

China: Amoy, July 28-Aug. 4, 100 deaths; Hongkong, July 28-Aug. 4, 51 cases, 50 deaths.

India: Bombay, Aug. 14-21, 65 deaths.

Scotland: Glasgow, Aug. 31, 11 cases, 1 death; Sept. 4, 12 cases (4 under suspicion); Govan, Sept. 4, 1 death.

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